

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, AT NEW DELHI
APPEAL NO. 112 OF 2018**

BETWEEN:

University of Delhi

...Appellant

Versus

Ministry of Environment Forest
& Climate Change & Ors.

...Respondents

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THROUGH
ADVOCATES:



SANJAY UPADHYAY, SALIK SAHFIQUE, ANURAG OJHA,
ROHAN CHAWALA & SAUMITRA JAISWAL
29, LGF, PRESIDENTIAL ESTATE,
NIZAMUDDIN EAST, NEW DELHI – 110013
8527929297

Date: 15.01.2021

Place: New Delhi

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WRITTEN SUBMISSION/OBJECTIONS ON BEHALF OF THE APPELLANT IN PURSUANCE TO THE REPORT DATED 10.12.2020 OF THE COMMITTEE CONSTITUTED UNDER THE ORDER DATED 10.02.2020 OF THE HON'BLE TRIBUNAL AND THE SHORT AFFIDAVIT OF M/S YOUNG BUILDERS (RESPONDENT NO. 4) DATED 08.01.2021 ALONGWITH SUPPORTING AFFIDAVIT

MOST RESPECTFULLY SHOWETH:

The instant appeal has been filed against the impugned Environmental Clearance (EC) dated 23.03.2018 given by the State Environmental Impact Assessment Authority (SEIAA) to the Respondent No. 4 for the construction of S+G+37 storied building in the North Campus Area of the Delhi University as an expansion project after its first EC expired in 2012.

The said EC has been suspended by this Hon'ble Tribunal under its detailed order dated 10.02.2020 finding the project to be prima facie not viable. Under the said order the Hon'ble Tribunal constituted a Committee to ascertain the viability of the project having regards to the existing environmental status and realistic impact of the project on the recipient environment, including in terms of the ambient air quality.

Accordingly, a report has been furnished by the said Committee titled "Rapid Indicative Environment Assessment Report" dated 10.12.2020.

Further, a Short Affidavit has also been filed by Respondent No. 4 (M/s Young Builders) on 08.01.2021. However, the Appellant has various objections against the said Report, and also against the Short affidavit filed by the Respondent No. 4. The Appellant has found various anomalies, discrepancies, and inconsistencies in the report. The specific points of objection to the said Committee Report of the Appellant are submitted herein below:

A. Objections against the Report dated 10.12.2021 filed by the Committee constituted under order dated 10.02.2020 of this Hon'ble Tribunal:

1. Composition of Committee- Presence of Member who was party to granting of Impugned Prior Environmental Clearance is improper and is violative of the principle "*nemo judex in causa sua*":

It is submitted that the composition of the Committee is improper as the representative from the School of Planning and Architecture, New Delhi, Ms. Meenakshi Dhote, was also a member of the State Expert Appraisal Committee (SEAC) Delhi who had earlier examined the proposal of Respondent No. 4 (M/s Young Builders) for the grant of EC and recommended the project (**See Annexure 5 Page 67 of the Representation dated 07.07.2020 of the Appellant sent to the Committee– Annexure B herein**). The said fact is evident from the 96th Minutes of the Meeting dated 21.03.2018 (held on 13.03.2018 & 17.03.2018) of SEAC wherein the said Project was recommended by SEAC and wherein the name of Ms. Meenakshi Dhote is mentioned under the list of Members of the meeting. The relevant pages of 96th Minutes of the Meeting of SEAC dated 21.03.2018 is annexed herewith as **ANNEXURE A**. Accordingly, EC was granted to the Respondent No. 4 by SEIAA based on the recommendation of SEAC on 23.03.2018, which is impugned under the present appeal. Therefore, on the principle that no man can be a judge in his own cause, the well known judicial principle of *nemo judex in causa sua*, the Appellant

objects to the composition of the Committee and the consequent Report presented by the Committee. There is a reasonable apprehension of bias or possible undue influence that the Committee may have had due to a previous view taken by one of the members and therefore rendering the process as not totally independent qua the impugned EC granted to Respondent No. 4. It is pertinent to mention that the said objection was raised before the Committee on various occasions and stages of the preparation of the report, however, the stand of the Appellant was not considered seriously at any stage by the Committee and who decided to continue with the present composition without providing any cogent reasons to the Appellant. It is pertinent to mention that as per the minutes of the meeting of the Committee dated 08.07.2020, the objection raised by the Appellant was acknowledged and it was opined that the member may continue, however, it was also recorded that the CPCB may seek opinion from its legal department on the said issue (**See Page 94 of the Report**). However, no further action in this regard is recorded in minutes of the subsequent meetings of the Committee and was therefore ignored.

2. Meeting not conducted in a transparent manner:

It is also submitted that meeting itself was not conducted in a transparent manner as the representatives of the Appellant were kept out of the meeting on 08.07.2020 when the presentation of other parties (viz. M/s Young Builders and DMRC) were being taken. They were forcefully logged out electronically.

3. Appellant was not informed of the field visit of the site made by the Committee:

It is submitted that the Appellant was not informed of the field visit made by the Committee on 17.08.2020 of the site in question for the appraisal of the project and was therefore conducted without the participation of the Appellant. On the contrary, the members of Respondent No. 4 (M/s Young Builders) were present on site

during the field visit as can be seen in the photographs presented in the report (**See Page 7-8 of the Report dated 10.12.2020**). Further, Ms. Meenakshi Dhote was also present during the site visit, whose very appointment to the Committee has been challenged by the University. (**Page 4-5 of the Report**).

4. Credentials of the Site Visit team of the Committee is questionable:

That out of the nine members of the Independent Committee, only four were Delhi based members who were present on the project site visit. Their field expertise has to be seen to test the competence of the expert members in context to the points raised by the Appellant under the Written Submission filed on 13.02.2020 and representation filed before the Committee on 07.07.2020. In short, credentials of the four members who visited the project site with regards to their expertise towards air, ground water, traffic analysis, etc. has not been provided and is unknown.

5. Non-compliance of the order dated 10.06.2020 of Hon'ble Supreme Court:

The Hon'ble Supreme Court vide its order dated 10.06.2020 passed in CA 2485/2020 filed by Respondent No. 4 against the order dated 10.02.2020 had directed that "*the Committee shall also afford a further opportunity of hearing to the appellant, University of Delhi and Delhi Metro Rail Corporation before it submits its final report before the Tribunal*". The said order clearly required the Committee to grant further opportunity to the Appellant before filing the final report. The use of the word "final report" signifies that opportunity was supposed to be given while finalizing the Draft report and therefore the Draft report should have been availed to the Appellant. However, the Appellant was not provided the same. The Appellant was lastly called for a meeting held on 08.10.2020 and only after the same, the Draft Report was prepared on 01.12.2020 and was circulated among the members only (**Page 4 of the Report**). Therefore, there has been a contravention of

order of Hon'ble Supreme Court in this regard without any proper reason.

6. Assessment done contrary to decision taken in the meeting held on 05.08.2020:

As per the Minutes of the Meeting held on 05.08.2020, the Committee decided that the area of 5 km radius from the project site would be considered for examining the available data on various environmental parameters, such as Air quality, water quality, Ground water levels, waste management plan during construction stage and post construction stage. However, the Report has actually considered an area of 2 km by 2 km grid having the project site as the centre. This means an area which has been considered is around 1 km radius having the project site as the centre. Therefore, the difference between the impact zone decided to be considered under the said meeting and the impact zone actually considered is huge without any logical explanation. It may therefore be concluded that the study conducted cannot provide any correct estimations of actual impacts which the project poses towards its surroundings. (See Page 14 r/w Page 99 of the Report)

7. Impact on population density is more significant than what is reported:

- The Report states that the project will cause increment of 14% in the existing population density in the ward, which is statistically significant and likely to result in alteration in present conditions. That even though the report is clear on the impact the project poses on the population density, however, no further actions have been suggested that may be taken in pursuance to the said increase in density. Further, the population density increase has been calculated only for Timarpur ward and no other wards which are falling into the 2 km x 2 km grid have been considered. It has already been pointed out above that the zone of impact considered by the Committee is highly reduced than what was initially decided

by the Committee and what is being generally followed under EIA procedure in case of projects of this nature. Further reduction of the area for evaluating the population density is uncalled for. It is pertinent to mention that otherwards which are majorly falling under the 2 km x 2 km grid are GTB Nagar and Majnu Ka Tila and the population density of these have been ignored for calculation of population density impact of the project which are less than 1km away from the project site. The population density of GTB Nagar is more than 3 times than that of Timarpur ward and therefore consideration of the same would further increase the population density from the already high increase presented under the report. This shows that the project could have even more severe environmental impact than what is shown under the report. The report does not represent the existing population density of the impact zone and therefore the percentage increase of 14% does not show the whole and true picture of the impact of the project in this regard (**Page 17 of the Report**).

- Further, the report only refers to areas such as Timarpur, Model Town, Mukherjee Nagar which are across Mall Road, on the other side of the project site or is away from the project site. But there is no mention of a moving population of the University which has students, teachers and staff as residents too. This University is bordering with the project site and situated on the very side of the project site. Still, the Report refers to the population density of only areas on the opposite side of the project site. The University population as well as the neighbouring colonies population (who use the Chhatra Marg, Cavalary Road and Narang road) increases every year. The report failed to consider this aspect (present as well as future). Thus, it failed in complying with the NGT order dated 26.10.2018, in O.A. No. 568/2016, *Ajay Khera Vs. Container Corporation of India Limited &Ors.*

18. "Accordingly, we consider it necessary to direct assessment of carrying capacity for the NCT Delhi as well as other major cities particularly 102 "non-

attainment cities” within reasonable time preferably in one year. Such study can be in phases depending on priority areas having pollution hot spots. Such assessment must specifically study capacity in terms of number of vehicles, extent of population, extent of different nature of activities – institutional, industrial, commercial etc”.

8. Assumptions made for calculating vehicular pollution has no basis:

The evaluation of the Committee with regard to the addition to air pollution due to vehicular increase has been based on certain assumptions of road length, cars owned per household, length of road used by each car per day, number of cars used daily, number of days car used by each house in a year and no involvement of diesel vehicles. However, no foundation/basis of these assumptions have been explained and are therefore vague. Thus, for example while the total road length considered within the grid is 34 kms the consideration of each cars travel is 1/4th of the total road length that is 8.5 km. Similarly, while no. of cars owned by occupants is 410 x 2 the usage has been considered as 1.5 cars. Similarly, the no. of cars on the road is 615 on a daily basis the usage per year has been considered as 235 days. Similarly, it is assumed that all cars are BSIV Petrol or CNG. Nowhere in the report these assumptions have been validated by any guidelines of CPCB or any other statutory notification or Office Memorandum thereby rendering all such assumptions as arbitrary and biased. Therefore, this results in making the conclusion drawn also vague and incorrect. **(Page 19-20 of the Report).**

9. Vehicles plying are considered to be petrol or CNG and not diesel for evaluating vehicular pollution without any basis:

As pointed out above, the report assumes that the total number of 615 cars which will be used by the occupants will be petrol or CNG, however no reason is provided as to why such cars is not

considered to be diesel cars which causes more Particulate Matter (PM) emission. Further, it is stated in the report that these cars (Petrol and CNG only) being BSIV do not generate PM and therefore no study/figure of PM emission level is provided under the report. It is pertinent to note that PM emission in Diesel vehicles is high, and the proposed project is for high income group and therefore there will be a significant number of SUVs and other vehicles of high CC which will be owned by the residents and such segment of vehicles are mostly available in diesel engine. Therefore, an assumption that no diesel cars will be used in the project is erroneous, for which no genuine explanation has been provided. These diesel cars will directly affect the PM levels which are reported to be exceedingly beyond the permissible limit under the report itself, as explained in the point below. **(Page 20-21 of the Report).**

10. Inference with regards to Air Pollution is fictitious:

The inference with regards to Air Pollution provided in the report is that the 615 cars involved in the project is the likely source of air pollution, however as these vehicles are assumed to be BSIV compliant and only running in petrol and CNG therefore applicable emission limits for CO, HC and NO_x were used to estimate additional pollution load and no consideration for PM level has been given **(See page 21 of the report)**. The said inference is highly fictitious wherein the air pollution impact of the entire project has been reduced by elimination to the scope of vehicular pollution and that too has been watered down through unreasonable assumption that no such vehicles will run in Diesel engine and that no PM emission is made by these Petrol and CNG vehicles.

11. Ambient PM Level of the area is already alarming:

It is pertinent to mention that the measures of average PM_{2.5} submitted in the report for the year 2019 is 108 µg/m³ and for the year 2018 is 109 µg/m³ against the standard of 40 µg/m³ and for

PM₁₀ it is submitted to be 224 µg/m³ for the year 2019 and 242 µg/m³ for the year 2018 against the standard of 60 µg/m³. Therefore, the PM levels are already crossing the required standards. This itself shows that any addition to the PM level due to the operation of the project will not be viable for the area in question. Further given the fact that no study of increase in PM level is provided in the report therefore the conclusion drawn towards impact on air pollution cannot be relied upon. **(Page 20 of the Report)**

12. Traffic analysis based on wrong data:

The traffic study was done on 12.10.2020. However, owing to the COVID-19 pandemic, the University was closed and hence the major source of traffic in the area was completely absent. Thus, the volume of traffic could not have been realistically evaluated **(Page 27-28 of the Report)**. The material given by the University was also not compared/considered which includes the report of Prof. Geetam Tiwari, IIT Delhi **(Page 154-158 of IA 67 of 2020 of the Appellant as well as Annexure 18 Page 314-317 of the representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein)** under which it has been concluded that the roads surrounding the project are already running to its capacity and an addition to it by the project in question will be unsustainable.

13. Width of the roads not considered:

For the Traffic congestion analysis provided under the report, the width of the roads in question has not been taken into consideration for evaluating the volume or capacity of the road which can be seen from the chart provided under the report which has been copied below **(Page 28 of the Report)**. This has been one of the main contentions of the Appellant that the Cavalry Lane and Chhatra Marg are two main arteries of the University of Delhi and both roads are very narrow in width of 8.5m and 10.80m respectively **[This has been referred on page 24 of the Appeal at**

Para 3.11(II)(b)(iv) as well as page8, para 11 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein]. Therefore, the same does not have sufficient capacity and is already being utilized to its full capacity. Further increase of pressure due to the project would severely congest the roads in the area. Therefore, non-consideration of the abovesaid facts while evaluating the impact on traffic congestion that would result due to the project, doesnot represent the real situation in the said area(Page 27-29 of the Report). The same is evident by the fact that the capacity of road per hour for Chattra Marg is shown to be less than capacity of Cavalry road whereas the width and length and usage of Cavalry road is lesser than Chattra Marg (See Page 28 of the Report). It is not clear that as to how Chhatra Marg being practically more in width, length and usage than Cavalry road, has lesser road capacity per hour then Cavalry road. Please see the circles marked in the table (below) provided in report.

| Road Section | Length of road section (km) | Time of Day (for travel time data) | Travel Time (min) | Speed, v (km/hr) | Car | LCV | HCV | S*-Car | S-LCV | S-HCV | S_avg | Capacity of road(C)(vehicles /hour) | Volume (V) (vehicles/Hour) | V/C | Increased Volume after addition of 615 cars (V) | Project ed V/C |
|---|-----------------------------|------------------------------------|-------------------|---------------------------|------|------|--|--------|-------|-------|-------|-------------------------------------|--|------|---|----------------|
| | | | | | | | | | | | | Using formula, 1000 X Speed/S_avg | Using formula, Σ(No. of vehicle X PCU)/ no. of lanes X time duration | | | |
| Data retrieved from google map | | | | CPCB traffic count survey | | | Center to center spacing of vehicles (m) | | | | | | | | | |
| Chattra Marg (2) | 1.1 | 10am | 3 | 22 | 1530 | 557 | 6 | 7.9 | 8.9 | 10.4 | 9.07 | 2426 | 666 | 0.27 | 819 | 0.34 |
| | 1.1 | 1:30pm | 3 | 22 | 611 | 237 | 1 | 7.9 | 8.9 | 10.4 | 9.07 | 2426 | 544 | 0.22 | 852 | 0.35 |
| | 1.1 | 7pm | 3 | 22 | 1442 | 660 | 0 | 7.9 | 8.9 | 10.4 | 9.07 | 2426 | 691 | 0.28 | 844 | 0.35 |
| Vishwavidyalaya to Vidhansabha Road (3) | 1.2 | 10am | 3 | 24 | 4256 | 2546 | 246 | 8.3 | 9.3 | 10.8 | 9.47 | 2535 | 1681 | 0.66 | 1784 | 0.70 |
| | 1.2 | 1:30pm | 4 | 18 | 1831 | 911 | 117 | 7.1 | 8.1 | 9.6 | 8.27 | 2177 | 1335 | 0.61 | 1540 | 0.71 |
| | 1.2 | 7pm | 4.5 | 16 | 3926 | 1521 | 148 | 6.7 | 7.7 | 9.2 | 7.87 | 2034 | 1235 | 0.61 | 1338 | 0.66 |
| Vidhansabha to Vishwavidyalaya (3) | 1.2 | 10am | 6 | 12 | 4204 | 1178 | 243 | 5.9 | 6.9 | 8.4 | 7.07 | 1698 | 1215 | 0.72 | 1317 | 0.78 |
| | 1.2 | 1:30pm | 4.5 | 16 | 1772 | 822 | 108 | 6.7 | 7.7 | 9.2 | 7.87 | 2034 | 1247 | 0.61 | 1452 | 0.71 |
| | 1.2 | 7pm | 5 | 14.4 | 4559 | 2557 | 263 | 6.38 | 7.38 | 8.88 | 7.55 | 1908 | 1744 | 0.91 | 1846 | 0.97 |
| GC Narang Road (2) | 0.75 | 10am | 2 | 22.5 | 888 | 670 | 3 | 8 | 9 | 10.5 | 9.17 | 2455 | 559 | 0.23 | 713 | 0.29 |
| | 0.75 | 1:30pm | 3 | 15 | 571 | 380 | 0 | 6.5 | 7.5 | 9 | 7.67 | 1957 | 666 | 0.34 | 973 | 0.50 |
| | 0.75 | 7pm | 3 | 15 | 856 | 660 | 0 | 6.5 | 7.5 | 9 | 7.67 | 1957 | 544 | 0.28 | 698 | 0.36 |
| Cavalry Road (2) | 0.75 | 10am | 2 | 22.5 | 236 | 93 | 0 | 8 | 9 | 10.5 | 9.17 | 2455 | 106 | 0.04 | 259 | 0.11 |
| | 0.75 | 1:30pm | 2 | 22.5 | 60 | 31 | 0 | 8 | 9 | 10.5 | 9.17 | 2455 | 61 | 0.02 | 369 | 0.15 |
| | 0.75 | 7pm | 2 | 22.5 | 188 | 157 | 0 | 8 | 9 | 10.5 | 9.17 | 2455 | 126 | 0.05 | 279 | 0.11 |

*Centre to centre space between vehicles

14. No suggestions on Solid Waste Management including C&D waste as well as Hazardous Waste Management:

The report notes that during construction phase, C&D waste is likely to be generated and no plan for the same has been submitted. Further, the report notes that hazardous waste would also be generated. However, no suggestions have been made in the report

on this aspect and therefore the same bears no consequence. (Page 24-25 of the Report).

15. Incomplete noise impact analysis:

- The report incorrectly notes that the project site is not in a silence zone. The report states that the nearest hospital which is the Patel Chest Hospital is 600m. However, the Committee has failed to consider that the Campus of University of Delhi is adjacent to the project site and is within 100m. That as per the notification of GNCTD dated 03.04.2008, areas falling within 100m of any educational institute would also be considered as Silence Zone. Therefore, the said area would constitute a silence zone. Further, the report itself acknowledges that the School of Open Learning and Meghdoot Hostel for Women are nearby buildings but does not compute the distances from them for the purposes of silence zone. The Hostels are also a part of educational institute as resident students' study in the library and study room attached in the hostel. Further, the report does not mention about the Delhi School of Social Works, its hostels and faculty residences across the project site on the Cavalry Lane. The Report does not mention about the biggest women Hostel of Delhi University, PG Women's Hostel though it shares the boundary with Meghdoot Hostel and is next to Meghdoot Hostel on the Chhatra Marg. There is no reference to Faculty of Education or the Miranda House Hostel on the Chhatra Marg in the immediate vicinity of the project site. The Report has selectively included or excluded areas which raises doubt on the very sanctity of the assessment carried out by the Committee. Further, the report has also not considered the play school in Education Department, Railway Claims Tribunal at 13/15, Mall Road.
- Further, the readings of the noise decibels provided under the report is of an area which is submitted to be a commercial area thus the standards have been taken to be 65

dB(A) daytime and 55 dB(A) night-time. Therefore, a conclusion has been drawn that the noise impact is miniscule. In contrary the site of the project is a silence zone thus having noise pollution standards of 50 dB during day and 40 dB during night and by this standard the readings submitted for the years 2018 and 2019 (viz. 61 dB(A) daytime and 59 dB(A) night-time for the year 2018 & 62 dB(A) daytime and 58 dB(A) night time for the year 2019) is exceeding and are violative of the standards. Further, no analysis is done for noise levels during construction phase. Further the ambient noise level has been evaluated taking into consideration only one monitoring station in Civil Lines and no disclosure has been done of the distance of the said stations from the project site. Therefore, the limited data used for evaluating the noise level of the entire area is not sufficient to draw any conclusion in this regard and the figures provide are therefore itself not reliable. **(Page 25-26 of the Report).**

16. Location of the project viz-a-viz its surroundings have not been considered properly:

The report has no mention on the proximity of the project to Delhi University and Viceroy Building (heritage site), the Delhi School of Social Works, its hostels and faculty residences across the project site on the Cavalry Lane. The Report does not mention about the biggest women Hostel of Delhi University, PG Women's Hostel, Faculty of Education or the Miranda House Hostel, the play school in Education Deptt., Railway Claims Tribunal at 13/15, Mall Road. Thus, it can be seen that no description of the project in terms of location and surroundings on environmental sustainability is studied.

17. No findings provided on the adverse effects of DG sets being used:

The report recommends using of DG sets but has not reported on the environmental effects of DG sets. Regarding the use of DG sets, it may be noted that the NGT in judgement dated 24.08.2017 *Bharti Infratel Ltd. & Ors. vs. State of M.P. &Ors.*, OA 83, 77 (Thc) Of 2012 has held:

“26. From the above dictums of the Supreme Court and this Tribunal, it is clear that the Entries which have used expressions of wide connotations may receive a liberal construction. The term 'other applications' appearing in Entry 5 is obviously to include what is not specifically stated but is an 'industrial operation' or 'process'. The term 'Industries' have different nuances. It would refer to the process of manufacture, production, and allied activities. It may also be used in the context of a service like hotel, tourism and organized activity to earn profits. In light of these principles, if we examine the present case, it is evident that the DG Set is an integral part of a process to provide cellular services to the people at large. It is strictly speaking not a standalone plant but is part of the entire process as it is a source of uninterrupted and continuous energy to the tower to ensure that there is no disruption of signals. The DG Sets operate on oil and after use of the same, it generates used/waste oil. The waste oil squarely falls within the definition afore-stated and it is a hazardous waste in terms of the above-stated Rules of 2008.”

18. Change in layout and modification on basement and parking suggested due to impact on groundwater discharge zone - Consequential impact of suggestions not studied and moreover fresh EC would be required:

- The report has suggested that the project should be modified to have one stilt parking and one underground basement and that a double basement should not be constructed, as it would impact the ground water discharge zone. However, the consequential impact of the suggestions has not been considered. As per the proponent, 186 cars would be parked in the second basement. If the second basement is not constructed, the project becomes unviable, as there is no sufficient parking space. More importantly any change in layout such as suggested above would amount to a substantial modification of the project and would therefore have to be freshly assessed for Environmental Clearance.

Furthermore, there would be a consequential impact on the structural safety. However, the Committee has accorded its consent on structural safety based on the current layout and not on the revised layout. **(Page 23 r/w 29 of the Report).**

- Significantly, Respondent No. 4 (M/s Young Builders) admits that the project would be unviable in case of single basement. In Paras 'd', 'e', 'f' at Page 1600 of the short affidavit dated 08.01.2021 filed by Respondent No .4 it is admitted that in case there is a single basement, the parking would be insufficient and major design changes, fire safety changes, green area changes etc. would have to be undertaken. The STP, DG Set etc. equipment will also have to be relocated. Thus, even if the Committee report is accepted, even then the project is unviable in its current layout, size and form and fresh environment clearance would be necessary.

19. Analysis of seismic stability has various shortcomings and irregularities:

- The report has correctly noted that the project is high hazard zone having worst category of “very high” risk of earthquake. However, still the Committee did not conduct any analysis of its own, and instead relied on certificates/reports given by the proponent. The given approach is not reasonable due to the fact that the present Committee of experts was constituted to apply its own mind on the viability of the project, and in the present point, viability with

regards to its seismicity was required to be evaluated independently. However, a complete reliance on the certificates and reports already issued to the project for concluding its viability in this regard shows that no serious examination on this aspect has been done by the Committee which has simply verified the certificates/report already provided to the Project Proponent. Further, none of the certificates referred in the report are from any reputed scientific authorities. They are instead from private bodies engaged by Respondent No. 4:

The Structural Safety Certificate given by a private consultant only certifies that structural design *shall be* designed for safety requirements/based on National Building Code. No actual designs are shared (**Page 107 of Report**).

Similarly, STR Certificate dated 10.01.2018 is that of a private consultant and only states that BIS Codes shall be followed, the design shall be approved by IIT and that the soil investigations shall be adhered to. Once again, there is no analysis on the viability of the construction. (**Page 169 of Report**).

Likewise, the Report given by VS Raju Consultants is by a private consultant engaged by the Project Proponent. In any event, the said report is dated 17.04.2018 and thus was never considered by the SEAC/SEIAA (**Page 112 of Report**). The impugned EC was granted on 23.03.2018.

Thus, no statutory authority has afforded its approval to the structural safety of the proposed construction.

- Further, the report of Prof Raju -Consultants, relied upon by the Committee claims that the initial soil report by M/s Rao Engineering Enterprises reports inappropriate shear strength parameters. This shows that the report of M/s Rao Engineering Enterprises could not be relied upon. Significantly, the 'Structural Safety Certificate' dated 04.07.2017 which is also relied upon by the Committee for approving the seismic safety of the project has itself relied on the soil investigation report of M/s Rao Engineering dated 27.05.2009 which is not reliable as per the observation made above. This also poses a doubt on the reliability of the Certificate

dated 04.07.2017 and further on the conclusion of the Committee towards the seismic stability of the project (**Page 114 r/w 107, of Report**). It is pertinent to mention that no soil investigation report dated 27.05.2009 of M/s Rao Engineering was brought on record by the Respondent No. 4 before this Hon'ble Tribunal or before Hon'ble Supreme Court. Instead, Soil investigation Reports of 2011 and 2018 has been brought on record. In the written submission filed on 13.02.2020 by the Appellant, it has been raised that neither the 2011 report or 2018 report can be relied upon due to various discrepancies mentioned therein. In this regard it was submitted that Soil investigation report of 2011 is based on data which is old and the same has changed. Therefore, reliance of an even earlier Soil Investigation Report by the Committee shows a grave error on their part.

- **Significantly, in Para 13 at Page 1606, of the Short Affidavit dated 08.01.2021 filed Respondent No. 4 admits that a single basement would impinge on the structural safety of the Project.**
- Further, the report of Dr. KS Rao of IIT, Delhi dated 23.01.2020 has not been considered (**Page 159 of IA 67/2020 of the Appellant, this has been referred on page381, Annexure 33 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**) and no opinion on the same has been provided by the Committee (**Page 29 of the Report**). The said report opines that intense infrastructure development in the area around Delhi University should be avoided as the said area is highly susceptible to subsidence and liquefaction during a medium to major earthquake.

20. No clarity towards Ground Water Usage:

The Committee in the report states that no groundwater will be used during construction phase (**See inference at Page 23 of the report**). At the same time the Committee recommends that NOC shall be taken from Delhi Government before dewatering (**See Page 32 of the Report**). It is pertinent to mention that dewatering

can be done of groundwater only and therefore the same would constitute its alteration for which permission of CGWA will also be required. Nonetheless the same will affect the Ground Water availability of the area which is already under semi-critical condition.

Further, in Para 'd' at Page 1604 of the Short Affidavit dated 08.01.2021 of Respondent No. 4, it is stated that Respondent No. 4 will give an undertaking that it will not extract any groundwater for construction activities. However, in its application to the District Advisory Committee on Groundwater, Respondent No. 4 states - *"To do the excavation till the required depth of 12.45 meter dewatering is required to lower down the existing subsoil water level. We will be using the extracted water for construction purpose as per need."* (**Page 1920 of Short Affidavit of Respondent No. 4**). Thus, there is manifest intention to use groundwater for construction purposes. Further, even under the Foundation Report of Prof Raju Consultants, relied upon by the Committee for verifying the seismicity of the project (**See page 29 of the Report**) shows that Groundwater will be impacted. The relevant extract is reiterated herein below:

"The current GWT level is reported at depths ranging from 8.45 m to 10.2 m below EGL. With assumed raft thickness of 2 m, the founding level will be at 12.05 m below EGL. This means that the founding level will be 1.85 m to 3.6 m below water table level.

It is extremely important to lower the water table 1 m below the founding level in advance i.e., before the excavation is done i.e., 13.05 m below EGL and maintained till enough downward load is mobilized to counteract the uplift pressure".

(Page 128 of the Report)

The Above extract show that the construction of foundation will requires lowering the water table and therefore there will be a significant impact on Groundwater.

Further, the report states that no Groundwater will be used during occupancy phase also (**See inference at Page 23 of the report**). However, there is no basis under which the said conclusion has been drawn. Under table 8, entry 2 of Form IA for grant of EC, it is submitted that “no significant impact on ground water quantity is envisaged”. (**See Page 816 of the Relevant Documents submitted by DPCC dated 26.11.2018 as well as Page 196-197 of the representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**). This indicates that the project will use the groundwater.

21. Colourable violation of Precautionary Principle:

The Report Recommends as follows:

“It is understood that the project area is part of ground water discharge zone. The construction of double basement may disturb/obstruct natural flow line of ground water. Therefore, the project may be modified with one underground basement and one stilt parking.” (at page 23)” It is a colourable violation of Precautionary Principle by the authorities. The conclusion of the Committee cited with regards to project area being part of groundwater discharge zone above and its inference thereafter for construction of only single basement are contradictory in character.

22. No analysis of impact on the Ridge:

The report only notes that the Northern Ridge is 500m from the project site and does not provide any further recommendation/suggestions in this regard. It also fails to consider the University’s contentions regarding the impact on the Ridge and the requirement of the consent of the Ridge Management Board (**Page 30 of the Report**).

23. No analysis on critically polluted areas:

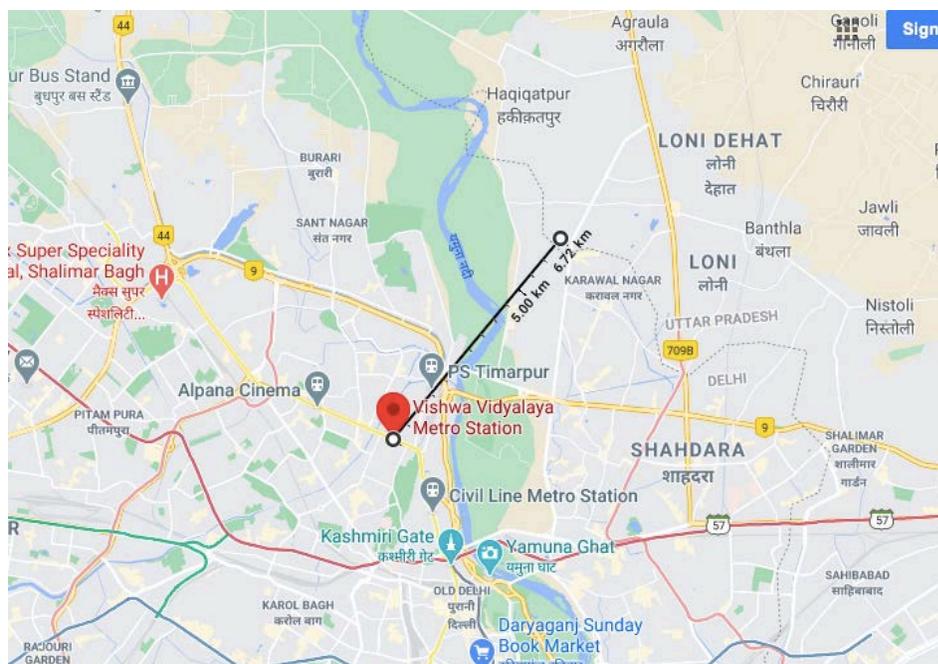
Similarly, the report merely notes the distance from critically polluted areas but does not consider the impact of the same of the project (**Page 30 of the Report**).

24. Contrary information submitted with regards to Najafgarh Drain:

The Report states that Najafgarh Drain is 37 km from the site at page 30, whereas at page 23 it is submitted that the Najafgarh Drain is at a distance of 500m. Such contrary statements make the report unreliable.

25. Incorrectly notes distance with interstate border: The Committee wrongly notes that the nearest interstate boundary is 14.9km away i.e.: New Friends Colony (**Page 30 of Report**). The aerial distance from the Loni Border with UP is about 6.5km.

Kindly see the Google Map image below:



26. Factual Inaccuracies:

The report incorrectly records that the University of Delhi appealed before the Hon'ble Supreme Court contending that the constitution of the fresh independent Committee was not justified (**Page 2 of the Report**).

27. No consideration of the detailed written representation of Appellant sent to the Committee:

The Project proponent had sent a detailed representation dated 07.07.2020 to the Committee under which various points has been submitted showing irregularities of the project in question viz-a-viz its environmental impact. The said representation dated 07.07.2020 is annexed herewith as **ANNEXURE B**. Most of these points are already on record under the written submissions filed by the Appellant on 13.02.2020. However, even though the Committee under its report dated 10.12.2020 has noted few of the submissions made by the Appellant and has stated that the same was examined however no specific finding towards the same has been expressed in any part of the report (**see page 9-10 of the Report**). The same shows that on the submissions of the Appellant there was no application of mind and therefore the concerns raised by the Appellant cannot be deemed to be considered by the Committee before concluding the project to be viable. That the Committee ought to have provided its inputs towards each of the contention raised by the Appellant under the said Representation which has not been done. The points raised by the Appellant under the representation sent to the Committee are briefly explained herein below:

- a) Objection towards the composition of the Committee comprising of Ms. Meenakshi Dhote on the grounds that she was already a member of the decision-making process of the impugned EC (**See Annexure A herein**).
- b) Affidavit of Ministry of Defence dated 01.02.2019 filed before this Hon'ble Tribunal (**Relevant Page 1084 of the Affidavit dated 01.02.2019 of Ministry of Defence as well as Page 86 of Annexure 8 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**) shows that the land where the project is proposed was illegally transferred by NCT Delhi to M/s Young Builders after changing the land use arbitrarily from 'Public and Semi-Public' purpose to 'Residential' purpose.

- c) Letter dated 25.10.1943 of Joint Secretary states that no unseemly buildings shall be erected in the neighbourhood of Delhi University and that regulatory bodies should consult University of Delhi before building plans are approved (**See Page 152 of IA 67/2020 of the Appellantas well as Annexure 9 Page 149-150 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**).
- d) Master Plan of Delhi 2021 under Clause 11.3 imposes restriction on tall buildings in North Delhi Campus area and Zonal Development Plan for Zone C under Clause 1.4.4 mandating preservation and the character and heritage of the campus. (**See Page 36 of Appeal as well as Annexure 10 Page 151-155F of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**).
- e) Report dated 27.04.2010 of a Committee constituted by Lt. Governor of Delhi states that any intervention at the doorstep of Delhi University constructing high rise building of 8 stories or so will amount to grave intervention on ambience of the University and will add to traffic load of two lanes which will further affect the ambience of the campus (**Annexure 11 Page 156-157 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**).
- f) Sub-Committee was constituted by SEAC vide letter dated 13.12.2011. One of the members expressed the view that project being adjacent to the University Campus will adversely affect the environment.
- g) No study of AAQ status of the project and carrying capacity of the area in term of air quality has been considered. Form IA of Respondent No. 4 is ambiguous on these aspects (**Annexure 12 Page 158-249 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**).
- h) Sample test report of M/s Young Builders shows AAQ to be beyond permissible limits. (**See Page 651-653 of IA 75/2020 of Respondent No.4 as well as Annexure 13 Page 250 r/w Annexure 14 Page 253-256 of the Representation dated**

07.07.2020 of Appellant sent to the Committee – Annexure B herein).

- i) Increase in dust pollution during construction will be detrimental to hospitals such as VP Chest Institute.
- j) Traffic in the two adjacent lanes is already high due to large movement of public including students from metro to respective institutions and residential and commercial areas.
- k) As per DMRC website, ridership/footfall at the Vishwavidyalaya Metro is around 25,000 person and this increases during the time of admission.
- l) The traffic Analysis report of 2011 cannot be relied upon for granting EC as it does not reflect the updated status (**Page 1040 of the Relevant Documents submitted by DPCC dated 26.11.2018 as well as Annexure 15 Page 257-281 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**)
- m) Traffic load increase will create an unbearable burden on the Cavalry Lane and Chhatra Marg which are narrow lanes of 8.5 m and 10.8m respectively. Chhatra Marg is accident prone area and will increase hardship of differently able community as provided under the Report titled "*The accessibility issues concerning persons with disabilities near the Vishwa Vidyalaya Metro Area*" (**Annexure 16 Page 282-284 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**)
- n) Traffic analysis Report of 2018 cannot be relied upon due to few anomalies submitted such as it wrong estimates of road width of Cavalry lane and Chhatra Marg considered, Average Daily Traffic (ADT) is shown to be higher than shown in 2011 report however number of cars mentioned in 2011 report is more than 2018 which is not possible, among others. (**Page 663 of IA 75 2020 of Respondent No.4 as well as Annexure 17 Page 285-313 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**).

- o) Proposed project falls under silence zone and due to the sensitive location of the proposed project, which is of 140 meters height, adverse impact on noise will be very high. Faculty of Education, University of Delhi which is adjacent to the proposed site offers various courses and there are also student hostels and schools and a throwaway distance. Even according to the test report of Respondent No. 4 ambient noise levels are high. **(Annexure 19 Page 318 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein)**
- p) DJB's appraisal of waste requirement for the project is undervalued. Water requirement of University of Delhi is itself not fulfilled. This will exacerbate pressure on Groundwater.
- q) Clearance by DJB given for 2,57,029 litres per day for 1,785 person which is 144 litres per person per day **(Page 432 of I.A. 75 OF 2020 as well as Annexure 20 Page 319 r/w Annexure 21 Page 320 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein)**. This is far less than estimates contained in Delhi's Water Policy 2016 which estimates that the same to be 160-225 litres. This is corroborated by Respondent No. 4 – M/s Young Builders in its own water balance study stating requirement to be 332 KLD **(Page 734 of IA 75 OF 2020 as well as Annexure 22 Page 323-325 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein)**. Further the water balance sheet represents demand of more quantity of water than what has been granted under the clearance by DJB. Therefore, the water pressure will shift to groundwater.
- r) Groundwater of the project area is overexploited and is in semi-critical state, where no Groundwater can be drawn unless permission of CGWA is acquired.
- s) Non-compliance of OM dated 10.11.2015 **(Page 160-163 of IA 67/2020 of Appellant as well as Annexure 23 Page 326-329 of the Representation dated 07.07.2020 of Appellant sent to**

the Committee – Annexure B herein) and 25.10.2017 (Page 170-171 of IA 67/2020 of Appellant as well as Annexure 27 Page 336-337 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein) in letter and spirit relating to various aspects such as socio-economic impacts, energy requirement to minimize power and promote renewable energy, groundwater potential, alteration in natural slope, water balance chart, recommendation of CAG among others. For instance, only 1% of electrical load is submitted to be fulfilled from solar energy. (Annexure 26 Page 334-335 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein).

- t) The dissent of two members for SEAC against the project has not been recorded (Page 191 to 196 of IA 67/2020 of the Appellant as well as Annexure 28 Page 338-341 and Annexure 29 Page 342-343 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein)
- u) Various shortcomings towards waste management such as on permission from SPCB under Solid Waste Management Rules 2016, no plan or details of STP, location of plant area required among others.
- v) Non consideration of lack of fire equipment with Delhi Fire Services for fighting high-rise buildings to deal with fire incidents and carrying out firefighting in congested, narrow arteries as noted by Hon'ble High Court in *Vikas Singh v. Lt. Governor and Others* (Annexure 31 Page 350-375 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein). Compliance with Guidelines for High-Rise Buildings dated 6 June 2013 is highly questionable. Clearance dated 08.09.2017 of Delhi Fire service not reliable as width of the road considered wrongly. (Page 731 read with 733 of the Affidavit of the Delhi Fire Service as well as Annexure 32 Page 376-380 of the

Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein).

- w) The Hon'ble High Court of Delhi has observed in *Arpit Bhargava & Anr. v. North Delhi Municipal Corporation & Ors.* that Delhi is not in state of readiness in terms of seismic structural stability of buildings (**Annexure 34 Page 382-384 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**).
- x) Geo-Technical Investigation Report of 2011 soil investigation report of 2011 cannot be relied upon for processing of EC. (**Page 972 – 1031 of Relevant Documents submitted by DPCC dated 26.11.2018 as well as Annexure 35 Page 385-447 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**)
- y) There is no proof that the Soil investigation report of 2018 was presented to SEIAA (**Page 496 of Counter Affidavit of R4 as well as Annexure 36 Page 448-470 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**). Further, the Foundation Report states that final excavation depth would be around 12m below existing ground level shows and would necessitate lowering of the ground water table. This shows that project is subject to liquefaction (**Annexure 37 Page 471-531 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**).
- z) Letter dated 11.01.2020 of Civitech approving the Soil Investigation done on the site on 27.05.2009 issued to Respondent No. 4 which was filed before the Hon'ble Supreme Court has been suppressed before Hon'ble NGT (**Annexure 38 Page 532 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**).
- aa) A total of 156 trees removed against the salient feature of Request of Proposal of DMRC. Out of agreed sampling plantation of 1560 plants only 780 have been reported to be planted and no information for the rest of them has been

provided. Respondent No. 4 sought compensatory afforestation in his own private land which is not in norm under compensatory afforestation (**Affidavit dated 10.10.2018 of Dept. of Forest and Wildlife, Govt of NCT Delhi page relevant pages 687-688 as well as Annexure 39 Page 533-577 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**).

- bb) Proposed Construction will open a gateway or many more project in the vicinity.
- cc) Project will hamper the privacy of women employees and women residing in women hostels adjacent to the proposed site.
- dd) Concealment of facts by the project proponent under its Form I– Delhi University and Viceroy Buildings being adjacent to the proposed project, Najafgarh Drain being close distance to the proposed project (**Page 227-229 of IA 75/2020 Respondent No. 4 as well as Annexure 40 Page 578-596 of the Representation dated 07.07.2020 of Appellant sent to the Committee – Annexure B herein**).
- ee) No analysis of carrying capacity of the area.

B. Objections/observations against Short Affidavit dated 08.01.2021 filed by Respondent No. 4:

1. **False statement regarding no impact on groundwater:** In Para 'b' on Page 1599 of the affidavit, Respondent No. 4 has stated that the depth of the foundation would be 10.05m and there would be no adverse impact on the groundwater. This is contrary to the own report of Respondent No. 4, which states that the foundation level will actually be 13.05m and the Groundwater level will have to be lowered for any construction (**Page 128 of the Report**).
2. **Application to District Advisory Committee on Ground Water not mutually exclusive to single basement:** In its affidavit (Para iv at Page 1601), Respondent No. 4 contends that since it has filed

an application for extraction of groundwater with the District Advisory Committee, the suggestion of the Committee on single basement should be ignored. If the District Advisory Committee gives its clearance, then there would not be any obstruction of the groundwater and hence two basements can be constructed. This is contrary to the suggestions of the Committee. The Committee has suggested that there should be a single basement and there should be an application to the District Advisory Committee. The said two tasks are not mutually exclusive.

In any event, the application is contrary to the recommendation given by Prof Raju Consultants. The application is for lowering the water table level to 12.45m, whereas the report of Prof Raju Consultants recommends lowering it to 13.05m. Prof Raju Consultants Report notes the significant issues in dewatering and hence the Committee recommended a single basement. **(Page 1920 of Short Affidavit of M/s Young Builders r/w 128 of Report of the Committee)**

In light of the above, it is the humblest prayer of the Appellant that the report dated 10.12.2020 of the Committee may be rejected and the impugned EC ought to be quashed/set aside.

THROUGH
ADVOCATES:



SANJAY UPADHYAY, SALIK SAHFIQUE, ANURAG OJHA,
ROHAN CHAWALA & SAUMITRA JAISWAL
29, LGF, PRESIDENTIAL ESTATE,
NIZAMUDDIN EAST, NEW DELHI – 110013
8527929297

Date: 15.01.2021

Place: New Delhi

IN THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

APPEAL NO. 112/2018

IN THE MATTER OF:

University of Delhi

.....Applicant

Versus

Ministry of Environment Forest

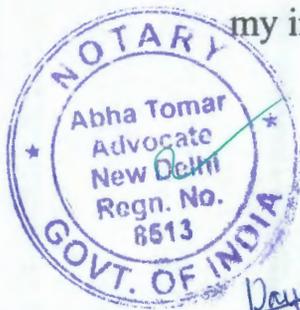
& Climate Change & Ors.

.....Respondent

AFFIDAVIT

I, Dr. Vikas Gupta S/o Late Shri I. J. Gupta, aged about 50 years, Registrar, University of Delhi, Delhi-110007, do hereby solemnly state and affirm on oath as under:

1. That I am the Registrar, University of Delhi – the appellant herein am fully conversant of the facts and circumstances of the matter and am competent to swear this affidavit.
2. The contents of the accompanying Written Submission/Objection are true and correct to the best of my knowledge and have been drafted by the counsel on my instructions and nothing material has been concealed therefrom.



Verification:
 I, the deponent/Executant
 has signed in my presence

Handwritten signature

DEPONENT
 कनराज / Registrar
 दिल्ली विश्वविद्यालय
 University of Delhi
 Delhi-110007/Delhi-110007

Verified at Delhi on this 15 day of JAN 2021 that the contents of the above affidavit are true and correct to my knowledge and belief and nothing material has been concealed there from.

certified that the foregoing statement
 was declared on solemn affirmation
 before me which has been read over
 to the deponent who has admitted

it as correct
 Notary, DELHI

15 JAN 2021

Handwritten signature

DEPONENT
 कनराज / Registrar
 दिल्ली विश्वविद्यालय
 University of Delhi
 Delhi-110007/Delhi-110007



**STATE LEVEL EXPERT APPRAISAL COMMITTEE
(SEAC)-DELHI
OFFICE OF DELHI POLLUTION CONTROL COMMITTEE
5th FLOOR, ISBT BUILDING, KASHMERE GATE, DELHI 110006
Visit us at <http://dpcc.delhigovt.nic.in>**

F.No. DPCC/SEAC/2018/96/6827-6841

Dated: 21/03/2018

MINUTES OF MEETING

Please find enclosed herewith the minutes of meeting of 96th meeting of the State Level Expert Appraisal Committee (SEAC) held on 13.03.2018 & 17.03.2018 in the conference room of DPCC, at 5th Floor, ISBT Building, Kashmere Gate, Delhi - 110006 for information and necessary action if any.

Anil Kumar

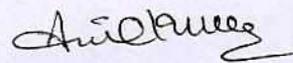
**(Dr Anil Kumar)
Secretary,
SEAC- Delhi**

To:

1. **Sh. Krishna Mohan Sahni, IAS Rtd. (Chairman, SEIAA)**, House No.38, Pkt 2, Jasola Vihar, Behind Apollo Hospital, New Delhi-11002.
2. **Dr. Kamal K Pant (Professor) (Member, SEIAA)**, Department of Chemical Engineering IIT Delhi, Hauz Khas, New Delhi-110016
3. **Director, Mahatma Gandhi Institute of Combating Climate Change (MGICCC)(Member Secretary, SEIAA)**, Department of Environment, Government of National Capital Territory of Delhi, Pall-Bakthawarpur Road, Alipur, New Delhi, Delhi-110036.
4. **Dr. Mukesh Khare (Professor) (Chairman, SEAC)**, Department of Civil Engineering, Indian Institute of Technology, Delhi Hauz Khas, New Delhi-110016.
5. **Director (Environment), (Secretary, SEAC)**, Department of Environment, Government of NCT of Delhi.
6. **Dr. Naveen Kumar (Professor and Head) (Member, SEAC)**, Mechanical Engineering Department, Delhi Technology University, Delhi-110042.
7. **Dr. S. K. Singh (Professor) (Member, SEAC)**, Civil and Environmental Engineering Department, Delhi Technology University, Delhi-110042.
8. **Dr. Mrs. Rita Kumar (Emeritus Scientist), (Member, SEAC)**, Environmental Biotechnology Division, Institute of Genomics and integrative Biology DU North Campus, Mall Road, Delhi-110007.

contd -

9. **Dr. Sanjay Gupta** (Professor) (Member, SEAC), Department of Transport Planning, School of Planning and Architecture, 4-Block-B, Indraprastha Estate, New Delhi-110002.
10. **Dr. Suman Lakhanpaul** (Professor) (Member, SEAC), Department of Botany, University of Delhi, North Campus, University Road Faculty of Science, University Enclave Delhi-110007.
11. **Dr. Amarjeet Kaur** (Professor) (Member, SEAC), Centre of Disaster Management Studies, Guru Gobind Singh, Indraprastha University, E-Block, 106 and 107, Sector-16 C, Dwarka, New Delhi.
12. **Dr. Anupam Chattopadhyay**, (Member, SEAC), Department of Geology, University of Delhi, 34, Chattr Marg Delhi-110007.
13. **Mrs. Meenakshi Dhote** (Member, SEAC), Department of Environment Planning, School of Planning and Architecture, 4 Block B, IP Estate, New Delhi
14. **PS to Secretary (Environment) cum Chairman, DPCC-** for kind information.
15. **IT Cell** for placing the minutes on website.



(Dr Anil Kumar)
Secretary,
SEAC- Delhi

STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC)-DELHI
OFFICE OF DELHI POLLUTION CONTROL COMMITTEE
5th FLOOR, ISBT BUILDING, KASHMERE GATE, DELHI-110006

Minutes of the 96th meeting of State Level Expert Appraisal Committee (SEAC) held on 13.03.2018 & 17.03.2018 in the Conference Room of DPCC at 5th Floor, ISBT, Kashmere Gate, Delhi-06.

Two sittings of 96th meeting of State Level Expert Appraisal Committee (SEAC) were held on **13.03.2018 & 17.03.2018** in the Conference Room of DPCC under the Chairmanship of Dr Mukesh Khare.

The following members of SEAC were present in the first sitting of the meeting held on on 13.03.2018:

- | | |
|-----------------------------|-------------|
| 1. Dr. MukeshKhare | - In -Chair |
| 2. Dr. S.K. Singh | - Member |
| 3. Dr. Suman Lakhanpaul | - Member |
| 4. Dr. Naveen Kumar | - Member |
| 5. Dr. Meenakshi Dhote | - Member |
| 6. Dr. Anupam Chattopadhyay | - Member |
| 7. Dr. Anil Kumar | - Secretary |

The following members of SEAC were present in the second sitting of the meeting held on 17.03.2018:

- | | |
|-----------------------------|-------------|
| 1. Dr. Mukesh Khare | - In Chair |
| 2. Dr. Sanjay Gupta | - Member |
| 3. Dr. Meenakshi Dhote | - Member |
| 4. Dr. Suman Lakhanpaul | - Member |
| 5. Dr. Naveen Kumar | - Member |
| 6. Dr. Anupam Chattopadhyay | - Member |
| 7. Dr. Anil Kumar | - Secretary |

Dr.AmarjeetKaur, and Dr Rita Kumar, Members SEAC, could not attend any of the sittings of SEAC. Shri Pankaj Kapil (SEE), DPCC & Sh.S.K.Goyal (EE), DPCC assisted the Committee.

The minutes of 95th meeting of SEAC held on 24.02.2018 were confirmed by the members.

During the first sitting of 96th SEAC meeting agendas from s.no.1-5 and 1 table agenda for proposal no. SIA/DL/NCP/72961/2018 were considered and agenda no. 6 to agenda no. 11 were deferred for further consideration in second sitting scheduled for 17.03.2018. It was also decided that the cases accepted by SEIAA/SEAC on OSMEC portal till 12th March 2018 (four numbers) may also be considered by SEAC in its 2nd sitting scheduled for 17.03.2018 and no further cases should be entertained on OSMEC portal in view of the tenure of the present SEIAA/SEAC Delhi expiring on 31.03.2018. In view of short time left the project proponents/accredited environmental consultants of these projects be intimated telephonically/ through email that in case they are willing to present their case they can do so in the post lunch session.

Agenda No 2Case No. C-353

| | |
|---------------------|--|
| Name of the Project | Amendment in EC of Group Housing Complex located at 1 and 3 Cavalry Lane and 4 Chhatra Marg at Civil Lines Delhi |
| Project Proponent | YOUNG BUILDERS P LTD, 10A, Scindia House, Connaught Circus, New Delhi-110002. |
| Proposal No. | SIA/DL/NCP/72616/2018 |
| File No. | DPCC/SEIAA-III/C-353/DL/2018 |

Details of the proposed project is as under:

The Proposal is for grant of amendment in Environmental Clearance of Group Housing Complex at 1 and 3 Cavalry Lane and 4, ChhatraMarg at Civil Lines Delhi for Revision of built up area of 70,265.95 sq.m to 1,17,733.28 sq m. The project proponent has applied under the head of fresh case with all details as per OSMEC portal. The project is located at 28 °41 '40 " N latitude and 77°12 ' 50"E longitude. Project Proponent has applied for amendment of EC stating in Form I that wrt EC letter no DPCC/SEAC/50/SEIAA/1/2012 dated 13th August, 2012 construction not started at site and has not submitted copy of certified compliance status for EC issued on 13.08.2012 from Regional Office (Central Region) of MoEF & CC& GOI as warranted vide Office Memorandum No. J-11011/618/2010-IA-II(I) dated 30.05.2012 for expansion projects. Details of the project are as under:

- Area detail:** The total plot area of the project is 20,000 sq.m.. The total built-up area as per earlier EC is 70265.95sq.m & proposed built-up area is 1,17,733.81sq.m. The permissible FAR is 40500 sq.m & total proposed FAR 40498.59 sq.m exclusive of EWS area. The maximum permissible ground coverage is 6,666 sq.m. The total ground coverage as per earlier EC 2130.64 sq.m. & proposed will be 1881.6 sq.m . The total nos. of dwelling units as per earlier EC was 324 Nos inclusive of EWS units & proposed dwelling units will be 410 Nos as per revised proposal inclusive of EWS units. The total nos. of population as per earlier EC was 1205 persons & proposed revised population will be 1785 persons. The total numbers of Towers/Blocks are four. The total height of building as per earlier EC was 117 metre & proposed revised height of the building will be 139.6 metre. The total number of floors as per earlier EC was S+G+35 & proposed revised number of floors will be S+G+37. The basement area as per earlier EC 23522.92 sq.m. & proposed revised basement area is 31,740.26 sq.m. The number of basement as per earlier EC & as per proposed EC are two .
- Water details:** Total water required for entire construction is 238 MLD. Total water requirement during operational phase as per earlier EC was 203KLD and proposed revised water requirement will be 332 KLD with fresh water demand of 202 KLD. The source of water during operational phase will be Delhi Jal Board and water supply scheme has been approved by DJB vide letter dated 07.10.2015. The total waste water generation will be 249 KLD which will be treated at on site STP of 275 KLD. The total treated water generated from STP will be 199 KLD out of which reuse of treated water in flushing- 87 KLD, in Horticulture/ Gardening -43 KLD & sprinkling on road side plants for cleaning dust from leaves- 69 KLD Numbers of RWH pits proposed are Six.
- Solid waste:** About 840 Kg/day of total solid waste will be generated from the complex. Organic waste convertor is proposed for composting of bio-degradable waste.
- Power:** The total power requirement is 2808 KV and will be met from TPDDL.
- Parking facility:** Proposed revised ECS will be 854 Nos.
- Eco-Sensitive areas:** The shortest aerial distance of the project from Asola Wildlife Sanctuary is 21.5 Km & from Okhla Bird Sanctuary is 16 Km respectively.
- Plantation:** The total green area proposed as per earlier EC 8373.75 sq.m. and proposed green area will be 6079.88 sqm. Number of trees at site will be 268 nos.
- Cost of the project:** The cost of the project as per earlier EC Rs. 321 Crores and proposed cost of the project 257.28 Crores.

Based on the information furnished, documents shown & submitted, presentation made by the project proponent SEAC in its 95th meeting held on 24.02.2018 sought the following information:

1. Revised water mass balance chart with minimum excess waste water discharge in rainy and non-rainy season and with action plan to re-use/recycle the excess treated water.
2. Schematic drawing of proposed STP of enhanced capacity.
3. Plan for handling the excavated earth is required to be submitted along with revised EMP (Environment Management Plan) for dust mitigation measures as per MoEF Notification No. GSR 94 (E) dated 25.01.2018 incorporating the provisions of spraying nozzles for dust suppression and frequency of spraying.
4. Details/location of ambient air monitoring points in basements including the ventilation cycle of fresh and recycled air.
5. Point wise comments on the issues raised vide circular no. J-11013/71/2016-IA.I(M) dt: 25 October, 2017 are required to be furnished.
6. Traffic management plan taking into consideration the latest traffic scenario.
7. Landscape plan with demarcation for total green area and soft green area.
8. Proposed plan for implementation of renewable energy.

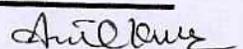
The project proponent

The project proponent appeared before SEAC on 13.03.2018 and submitted information/documents and gave the presentation before SEAC members.

After due deliberations, in its first sitting of 96th meeting held on 13.03.2018 the SEAC recommended as follows:

The project proponent has applied for amendment in EC under the head of fresh case on OSMEC portal stating that wrt EC letter no DPCC/SEAC/50/SEIAA/1/2012 dated 13th August, 2012 construction has not been started. Therefore present proposal is considered as a fresh case and Office Memorandum No. J-11011/618/2010-IA-II(I) dated 30.05.2012 for expansion projects is not applicable. Earlier EC issued vide letter no DPCC/SEAC/50/SEIAA/1/2012 dated 13th August, 2012 be withdrawn and treated as null and void. With respect to the present application, based on the information furnished, documents shown & submitted, presentation made by the project proponent and appraisal done by committee. SEAC recommended the case to SEIAA for grant of Environmental clearance imposing the following specific conditions:

1. Chhatra marg should be used for pedestrian and non-motorized vehicle or only in case of emergency with restricted motorised vehicles.
2. Treated water of DJB STP should be used for construction purposes up to the maximum extent possible.
3. Packaged/ mobile STP shall be provided for labour camp during construction phase.
4. Ground water should be extracted only after the permission from DJB.
5. Boring for Rain Water Harvesting system should not be permitted/ done before completion of structure work. All recharge should be limited to shallow aquifer.
6. STP should be adequate to treat the waste water so that BOD level should not exceed 10 mg/l in treated water.
7. Flow Meters should be installed to monitor consumption of fresh water as well as treated water and log book for these flow meters be maintained in a regular manner. Flow meters shall be installed at Inlet of STP, outlet of STP, inlet of flushing tanks, inlet of cooling water tanks and reuse line for horticulture purposes.
8. The project proponent, before starting the construction, will reconfirm the nonexistence of any water body in and around (within 500m) the project site. It will be ensured that water body/bodies(identified as per guidelines MPD 2021) in and around the project suite shall not be affected due to proposed development work.
9. Minimum 1 tree for every 80 Sq. Mt of plot area should be planted within the project site in accordance with the landscape plan submitted.
10. Solar Photovoltaic (SPV) system should be installed to meet electricity generation equivalent to 1 % of demand load or as per the state level/local building bye-laws, whichever is higher. Solar water heating shall be provided to meet its hot water demand as far as possible.
11. Only LEDs should be used.

12. Green building norms should be followed with a minimum 3 star GRIHA rating and Gold rating should be followed up.
13. Total capacity of DG sets should not exceed 50% of the total load.
14. Construction & Demolition waste should be disposed of at authorized C&D waste processing unit.
15. Wind- breaker of appropriate height i.e. 1/3rd of the building height and maximum upto 10 metres shall be provided all around the project site before the start of construction.
16. During the Construction Phase for control of dust pollution all precautionary measure should be ensured in compliance of Hon'ble National Green Tribunal order dated 4.12.2014 & 10.04.2015 in O.A. No.21 of 2014 and O.A. No. 95 of 2014 in the matter of Vardhaman Kaushik Vs. Union of India & others and Sanjay Kulshreshtha Vs Union of India & ors and as per MoEf&CC, GOI Notification no. G.S.R.94(E) dated 25.01.2018 regarding mandatory implementation of dust mitigation measures for construction and demolition activities.
17. Project proponent shall be responsible for establishment, operation and maintenance of all common facilities and also for compliance of EC conditions during operation stage.
18. In view of MoEF&CC Office Memorandum No. 21-270/2008-IA.III dated 19.06.2013 read with MoEF&CC Office Memorandum No. 22-154/2015-IA.III dated 10.11.2015, this environmental clearance is granted focusing only on the environment concerns. The project will be regulated by the concerned local Civic Authorities under the provisions of the relevant provisions of the extant MPD-2021, Building Control Regulations and Safety Regulations.
19. The Project Proponent shall obtain water assurance form NDMC/Delhi Jal Board / authorized source during construction / operation phase for the proposed development work. It must be obtained before starting the construction.
20. The Environmental Clearance is subject to the condition that concerned local civic agencies will give the permission for use/ occupation of the building only after the written assurance of DJB/ New Delhi Municipal Council / other such local civic authority (as the case may be) regarding supply of adequate water for the residents/ occupiers.
21. Grant of environmental clearance does not necessarily implies that water/ power supply shall be granted to the project and that their proposals for water/ power supply shall be considered by the respective authorities on their merits and decision taking.
22. The investment made in the project, if any, based on environmental clearance so granted, in anticipation of the clearance from water/ power supply angle shall be entirely at the cost and risk of the project proponent and SEAC/SEIAA, Delhi shall not be responsible in this regard in any manner.
23. Green area should not be less than 25 % of the plot area out of which minimum 15 % should be of soft green area, so that there should be sufficient recharging of ground water. Further along boundary wall, minimum of soft green space of 2m width be kept for better tree growth & ground water recharge, based on area of 6' x 6' / tree being a norm.

Agenda No.03**Case No. C-352**

| | |
|----------------------------|--|
| Name of the Project | Terms of Reference (ToR) for carrying out EIA studies of the proposed Common Bio-Medical Waste Treatment Facility (CBWTF) located at B-92 Okhla Industrial Area, Phase II, New Delhi |
| Project Proponent | Director, Synergy Waste Management Private Limited 517-518, 5th Floor Dmall, Rohini, Sector- 10, New Delhi |
| Proposal No. | SIA/DL/MIS/20252/2017 |
| File No. | DPCC/SEIAA-III/C-352/DL/2018 |

Project proponents have filed the application for issuance of the TOR for setting up the new Common Bio-Medical Waste Facilities in Delhi. Nobody appeared on the behalf of project proponent.

After due deliberations, the SEAC in its 95th meeting held on 24.02.2018 recommended to defer the case for further consideration in next SEAC meeting.

CIVIL APPEAL NO. 2485 OF 2020 BEFORE HON'BLE SUPREME COURT

&

APPEAL NO. 112 OF 2018 BEFORE LD. NATIONAL GREEN TRIBUNAL.

REPRESENTATION ON BEHALF ON UNIVERSITY OF DELHI

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UNIVERSITY OF DELHI

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DU/124/ Legal /1167-451

Date – 07.07.2020

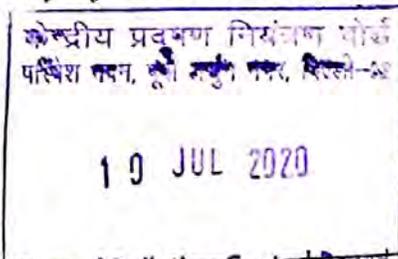
To,
Member Secretary,
Central Pollution Control Board,
'Parivesh Bhawan', East Arjun Nagar,
Shahdara, Delhi-110032
Tel: 011- 43102030

Sub: Representation on behalf of University of Delhi in compliance of order dated 10.06.2020 of Hon'ble Supreme Court passed in the matter M/s Young Builders Pvt. Ltd. Vs. University of Delhi regarding Construction of tallest building in North Delhi, Control Zone-C

Ref: Order dated 10.06.2020 passed by Hon'ble Supreme Court in Civil Appeal No 2485 of 2020 titled *M/s Young Builders Pvt. Ltd. Vs. University of Delhi* and Order dated 27.02.2020 passed by National Green Tribunal (PB) in Appeal No.112/2018 titled *University of Delhi vs Ministry of Environment, Forest and Climate Change & Others*, related to the Group Housing Project at 1 and 3 Cavalry Lane and 4 Chhatra Marg North Campus, New Delhi-110007.

Sir,

In compliance with the Order dated 10.06.2020 (Annexure 1) passed by Hon'ble Supreme Court in Civil Appeal No 2485 of 2020 titled *University of Delhi vs Ministry of Environment, Forest and Climate Change & Others*, the



Page 1 of 25

University of Delhi submits the following facts for the kind perusal and necessary consideration of the Committee directed to be constituted by the Hon'ble National Green Tribunal (NGT) under its order dated 27.02.2020 (**Annexure 2**) passed in the matter titled *University of Delhi vs Ministry of Environment, Forest and Climate Change & Others* (Appeal No. 112/2018). The said order dated 10.06.2020 of the Hon'ble Supreme Court was communicated by the Registrar, Supreme Court of India to Registrar, National Green Tribunal (NGT) on 15.06.2020 (**Annexure 3**) under Order XII Rule 6, S.C.R. 2013 and on the same date this communication was mailed to the Advocate of Record of University of Delhi (**Annexure 4**):

Preliminary Objections:

1. That without prejudice to any contention and with no other intent on questioning the integrity, but purely as a matter of propriety it is our duty to point out that Ms. Meenakshi Dhote, Department of Environment Planning, School of Planning and Architecture, 4 Block B, IP Estate, New Delhi was a member of SEAC Delhi which was constituted vide notification No. S.O. 919(E) dated 01.04.2015 for a term period of 3 years. During this tenure the clearance to the said project was granted. Further, this is borne out by the Minutes of the meeting dated 27.02.2018 of SEAC, that she was part of the decision-making process. It is now informed that Ms Dhote has been nominated as a Member of the Expert Committee on behalf of School of Planning and Architecture as indicated in the Meeting Notice dated 3.7. 2020. A copy of the Notification dated 01.04.2015, Minutes of the Meeting dated 24.02.2018 and the Meeting Notice dated 03.07.2020 is appended as **Annexure 5, Annexure 6 and Annexure 7** respectively.

2. On behalf of the University of Delhi and the Registrar it is requested that a separate presentation may be granted to the Original Appellant.

Prefatory:

1. Notwithstanding the above, the present representation is by University of Delhi bringing forth various points which shows why such a huge building project is unsustainable for the area and environment at the proposed site. The principal issue concerning the University of Delhi is the environmental feasibility of one of the tallest buildings in Delhi, which falls in the 'control zone' of North Delhi Campus. The project is proposed on an area of 20,000 sq.m. with built up area of 1,17,733.81 sq. m. with four towers of 139.6m. height having 410 dwelling units. The total floors now proposed are S+G+37 with 31,740.26 sq. m. of basement area. Given the size of proposed project especially in the immediate vicinity of University of Delhi and falling within the protected North Delhi Campus, it makes it environmentally unsustainable for the reasons described in detail below. Various specific environmental concerns are delineated in this representation for due consideration of this Ld. Expert Committee constituted by the Hon'ble NGT. To understand the current dispute in concern it is also important to understand the temporal context within which such environmentally unsustainable and seismically unviable project has been envisaged.

2. The Ministry of Defence, Government of India owned the land in question on which the proposed project is being considered. The land was acquired by the Government of NCT of Delhi for 'public purpose' at public expense sometime in May 2000. The Ministry of Defence has submitted an Affidavit to this effect before the NGT in the instant matter

(See Annexure 8 for Affidavit of MoD). The Affidavit has exposed the illegality and unlawfulness of the transfer of the Defense Ministry's land by the Government of NCT Delhi to M/s Young Builders Private Limited, after changing its land use arbitrarily from 'Public and Semi-Public' purpose to 'Residential' Purpose. This a question that the Ministry of Defence should answer to the citizens of Delhi and therefore is submitted to this Ld. Committee.

3. As per the letter dated 25 October 1943 of the Joint Secretary to the Government of India, Department of Education, Health and Lands to the Chief Commissioner, Delhi, (See Annexure 9) it is stated that no unseemly buildings shall be erected in the neighbourhood of Delhi University and its colleges in the area designated as the University Enclave. The said letter further states that the area should be considered to be a protective belt and the regulatory bodies should consult the University of Delhi before building plans are approved by them. Further, the University of Delhi should be informed of all applications for permission to construct additional buildings in the area. The rights conferred by the said letter of the Government of India upon the University remain sacrosanct. This has been completely ignored by the Project Proponent as well as the SEIAA.
4. The MPD-2021 (Clause 11.3) reiterates the special status conferred on the University of Delhi with regard to land use by imposing restrictions on tall buildings in the North Delhi Campus area and the Zonal Development Plan for Zone-C (Clause 1.3.4) mandating the preservation of the character and heritage of the University of Delhi North Campus (See Annexure 10 for Relevant Pages of MPD-2021).

5. The Hon'ble Lieutenant Governor of Delhi constituted a Committee on 17.02.2010 under the Chairmanship of the Engineer Member of DDA (other members being the Chief Town Planner, MCD and Chief Engineer, DMRC) to survey the entire area and examine the implications of the proposed high-rise buildings on the privacy and on the integrity of the environment of the University of Delhi. The Engineer Member, DDA submitted a Report dated 27.04.2010 stating that there was no agreement among the members of the Committee. However, in the said report it was also submitted that any intervention at the doorstep of Delhi University constructing a high rise building of 8 stories or so will amount to a grave intervention on the ambience of Delhi University and will add to a considerable traffic load on two lane roads of Delhi University which will further effect tranquil ambience of the campus **(See Annexure 11 for the report dated 27.04.2010 of Engineer Member, DDA)**. One can imagine the manifold damage that the proposed 39-storey structures can cause to the environs of the University Enclave.

6. A Sub-Committee was constituted by SEAC vide letters dated 13.12.2011 and 22.12.2011 to consider the issues raised by the Registrar, University of Delhi. After due deliberations, Shri Chinmaya R. Gharekhan, Member of the Sub-Committee expressed the view that the project being adjacent to the University Campus will adversely affect the general environment. According to Shri Gharekhan, it will be difficult for the monitoring agencies to enforce the norms which are normally flouted with impunity. He had suggested that the land in question may be given to the University of Delhi.

All these materials have been ignored so far by the EC granting body, it is therefore imperative that due consideration to such observations be accorded to.

I. Non-Compliance of MPD-2021

7. The indicators provided under Environment Impact Assessment Notification 2006 (amended from time to time) are broadly understood to be relevant considerations for determining environmental feasibility of any project. In our submission, the proposed project affronts most vital indicators enumerated therein, making the project environmentally vulnerable. The severity of the potential harm that the project brings to environment is such that it cannot be mitigated by any means.
8. Amongst others, first indicator is "*Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)*". As stated above, the proposed project falls within Control Zone –C of the Master Plan for Delhi -2021. The Master Development Plan and the Zonal Development Plan of Zone C clearly rules out constructions of tall building. Relevant clause in this regard thus reads:
 - A. Clause 11.3 imposes a restriction on the height of tall building as under:-

"The height of buildings (above and below ground) needs to be seen in the light of modern technology with due consideration for natural disasters like earthquakes, floods etc. Restrictions on tall buildings would be necessary in important areas like Lutyen's Bungalow Zone, Civil Lines and North Delhi Campus. In case of urban extension, areas

for specific Urban Design Projects and tall buildings should be identified.”

B. Clause 1.4.4 of the Zonal Development Plan for Zone-C (Civil Lines) under the MPD-2021 provides as under:

“The Delhi University was established in 1924 and it has a number of old historical buildings, colleges, Viceroy’s lodge etc. of the Colonial period and therefore efforts shall be done to preserve this character. Also efforts shall be done to make it an Integrated Campus (Without thoroughfare) and self-sufficient in terms of modern infrastructure and residential requirements like hostels, staff quarters, security arrangements etc., by optimum utilization of the land. Attempt shall be made to accommodate all institutional requirements within the Campus. Therefore, an Urban Design study shall be taken up for this sub-Zone. MPD-2021 has restricted this area for tall buildings. Delhi University has a large chunk of land allotted in Sub-Zone C-15, (opposite Dushehra Ground) and it is being utilized as Hostel and staff quarters. Optimum utilization of this land shall be done to meet the requirements in future. Listed Heritage buildings, some residences and Colleges of historical importance prepared by DDA, INTACH, ASI and GNCTD are given.”

Under the MPD-2021 of Delhi, there is a restriction on tall buildings in the specified area of North Delhi Campus. The proposed project – seemingly tallest in Delhi - is therefore deemed to suffer from this inhibition. Thus, the present project falls foul of the requirements of MPD-2021.

II. Severe impact on the Ambient Air Quality & Traffic Congestion

9. There has not been any study in consideration of the Ambient Air Quality status of the project area, the carrying capacity of the project area in terms of air quality and the likely impact of the proposed construction on the air quality of the area. The Form 1 A submitted by the M/s Young Builders (**Annexure 12**) is ambiguous on these aspects. Even the sample test reports filed by the M/s Young Builders before Hon'ble NGT (**Annexure 13**) show that the Ambient Air Quality Analysis is beyond the permissible limits. For example, the Ambient with regards to PM_{2.5} captured for various days is report is at the range of 134ug/m³ -240 ug/m³ against the required standards 60 ug/m³ as per National Ambient Air Quality Standards Notification dated 18.11.2009 of CPCB (**See Annexure 14 for notification dated 18.01.2009**).
10. Moreover, substantial increase in dust pollution resulting from the construction site will be detrimental to the hospitals such VP Chest Institute and the patients therein and also the various science laboratories located at a stone's throw from the proposed site severely impacting the expensive equipment and the scientific endeavour of the university research community. This alone will not be less than a national calamity forced on an institution which has recently been declared as an Institution of Eminence by the Government of India.
11. Further, the said project can adversely impact the traffic congestion of the area. It is pertinent to mention that Cavalry Lane (entry/exit point of the proposed project with a width of 8.5m) and Chhatra Marg (emergency entry/exit point of the proposed project with a width of 10.80 m) are two main arteries of the University of Delhi. The traffic in the area is already

high due to the large movement of public including a large number of young students from Vishwavidyalaya Metro Station to the respective institutions and to Kamla Nagar, Shakti Nagar, Malkaganj and other nearby residential and commercial locations. This traffic is in addition to the volume of commuters to and from the University and its various colleges/ departments/ faculties/ schools/ labs/ hospitals in the North Campus area. About 50, 000 people use other modes of transport to connect with these places apart from the large vehicular movement on a daily basis.

12. According to the DMRC website, the ridership/footfall at the Vishwavidyalaya Metro Station alone is around 25,000 persons. During the admission season in the University of Delhi, the ridership and movement of people goes up further. On weekends, thousands of additional number of students visit the School of Open Learning (SOL) which is adjacent to the proposed project site. The DMRC ridership data does not include information about other pedestrians, hawkers, rickshaw pullers, etc.
13. The proponent of the proposed project (M/s Young Builders Private Limited) has relied upon a Report of Traffic Analysis of 2011 while seeking environmental clearance in 2018. SEIAA neither took cognisance of the traffic density in the area, nor the escalation in congestion and pollution figures between 2011 and 2018. The parking related issues of a high-end residential complex located in a small alley have been completely ignored; the likely traffic volumes due to the new buildings are beyond the carrying capacity of the site. Therefore, this report of 2011 cannot be relied upon, because the same does not reflect the updated status of the **(See Annexure 15 for Report of Traffic Analysis of 2011)**.

14. This proposed project with addition of at least 900 vehicles and commuters will impose unbearable burden on the existing public infrastructure of the above-mentioned road, namely, Cavalry Lane, which is a very narrow passage and the only entry/exit route of the proposed site. Chhatra Marg, which will be used as an emergency exit is already an accident prone area and the proposed project will increase the hardship of the differently abled community accessing the University through that road. Cavalry Lane road as stated above is a narrow stretch of road and can hardly take additional burden of traffic likely to be caused by the proposed structures. See a copy of the Report titled "*The accessibility issues concerning persons with disabilities near the Vishwa Vidyalaya Metro Area*" (See Annexure 16

15. Further the project proponent had further submitted the second report on Traffic Analysis of 2018 (See Annexure 17) and that too cannot be relied upon because:

- (i) The 2018 report wrongly estimates the road width of Cavalry lane as 24m and Chhatra Marg as 18m (This is contradicted by the 2011 report of the M/s Young Builders which claims that Cavalry lane is 12m wide and Chhatra Marg is 24m wide). Whereas, the actual width of the Cavalry Lane is about 8.5m and Chhatra Marg for motor vehicles is 10.8m.
- (ii) The 2018 report records the Average Daily Traffic (ADT) to be of 3284 PCU comprising of 926 cars, 1087 two wheeler, 707 autos and 2 buses. The said ADT is higher than that shown in 2011 report viz. 1844 however the number of cars mentioned under 2011 report comprising the mentioned ADT is surprisingly more than the 2018 report, according to which the number is 1091 cars and in 2018 report the number is 926 cars, which is not

possible. Further, even though the ADT reported under 2011 is 1844 PCU and that reported in 2018 report is 3284 PCU which is just a little less than double the average existing in 2011 however the traffic volume during peak hours has dipped from 226 PCU to 208 PCU from 2011 to 2018. The said facts clearly highlight severe anomalies in the latest report proving its implausibility towards studying the actual impact of the project towards traffic congestion and pollution.

- (iii) The 2011 report estimates that the housing scheme would generate 320 PCU of vehicular traffic. Even though the project has been expanded, the 2018 report comes to the same conclusion of traffic generation of 320 PCU. Similarly, the parking provisions within the project have decreased even though the project has expanded.

16. The Report of Prof. Geetam Tiwari, IIT Delhi (**See Annexure 18**) shows that the project is non-compliant of the Transit Oriented Development (TOD) Guidelines of Delhi Development Authority. It further shows that the traffic report of 2011 submitted by the M/s Young Builders to the SEIAA providing the estimated traffic data to be 320 Passenger Car Equivalent (PCU) during peak hour is an underestimation. In this regard, the report highlights that since the Housing Project in question is for High Income Group there would be about 800 motorized trips. Further the report provides that even the 'Volume to capacity' ratio of the Cavalry lane which is proposed to provide access to motorized traffic for the Group Housing Project will be exceeding the value of 1, whereas the traffic report of 2011 mentions it to be just 0.67. Accordingly, the report suggests that the motorised and pedestrian traffic and the roads surrounding the project are already running to capacity and an addition to

it by the project in question will be unsustainable. The report of Prof. Geetam Tiwari shows that the roads do not have the carrying capacity to handle the proposed project.

Thus, the area does not have the carry capacity to take on the load of the proposed project.

III. Increase in Noise Pollution in a Silence Zone

17. Given the environmentally sensitive location, the project proposes to construct the tallest building of about 140 mtrs height in Delhi, and is located at Chhatra Marg, University of Delhi, along with Vishwavidyalaya Metro Station on the one side and the University residences/ departments/ schools/ labs/ hospitals on the other side. Therefore, the SEIAA has failed to account for the adverse impact of noise that this project will generate especially considering that the project is in the silence zone.
18. The proposed project falls under the silence zone as per Notification dated 03.04.2008 of the Government of Delhi issued in pursuance to the Noise Pollution (Regulation and Control) Rules, 2000. As per the applicable standards, the decibel level in silence zones should not exceed 50 dB during the day and 40 dB during the night. The impact of the project on the noise levels in the area has not been considered by the SEIAA. . The proposed project will enormously increase the noise levels and violate the above the permissible limits. The proposed project is situated within the North campus of University of Delhi, a premier educational institution of eminence and within close proximity of Vallabhbhai Patel Chest Institute, a super-speciality hospital for pulmonary diseases. The Faculty of Education, University of Delhi which

offers B.Ed, M.Ed, M.Phil and Ph.D programmes with its related amenities such as student hostels and schools for children from Class I to Class VIII are situated at a throwaway distance from the proposed project site. The State Environmental Impact Assessment Authority (SEIAA) has not undertaken any study to examine the impact of the proposed project on noise levels within a silence zone.

19.No study has been undertaken to examine the impact of the proposed project on noise levels within a silence zone. Even according to the test reports of the M/s Young Builders, the observed value of 63.4 dB(A) and 49.8 dB(A) for Day time and Night time respectively of the noise is already greater than the permissible limits and the project is likely to increase the noise levels which is impermissible in law. **(See Annexure 19 for the test reports recording noise levels)**

20.Further, the Central Pollution Control Board (CPCB), in its Affidavit dated 09.08.2018 filed before NGT has referred to Section 5 (a) (3) of the Noise Pollution (Regulation and Control) Rules, 2000 in the instant matter which restricts sound emitting construction equipment in residential areas and silence zones during night time. There is no way that CPCB or any other regulatory agency can ensure or enforce this condition.

IV. Water Crisis and Gross Underestimation of Water Requirements

21.The entire North Delhi district is a notified area by the Government of NCT of Delhi. North Delhi falls in a water deficient zone as per the advisories issued by DJB. DJB appraisal of water requirement for the project during its construction and operation is highly undervalued with no cogent reason. DJB is unable to fulfil the water requirements of the University of Delhi fully which has resulted in frequent student protests

and protests from the university staff. The proposed project will definitely exacerbate pressure on the groundwater sources and the extraction of groundwater will be detrimental to the vegetation in the adjoining Northern Ridge and the North Campus of the University of Delhi.

22. To manifest the severity of water crisis and non-feasibility of project illustratively, Delhi Jal Board is stated to have given water supply clearance dated 07.10.2015 upto 2,57,029 litres per day (**See Annexure 20 for clearance dated 07.10.2015**). The project claims to provide for 1,785 persons (**See Annexure 21 for Brief project Summary which shows the same**), this translates to 144 litres per person per day, which is far less than the estimates contained in Delhi Government's Water policy for Delhi (2016), which states that the domestic water demand varies from 160-225 litres of domestic water. This is corroborated by the project proponent's own water balance study, which states the requirement to be 332 KLD

23. Having no cogent indication of the basic norms, the whole burden for meeting water requirement will shift to ground water which will hamper the environmental protection afforded to this area. In such a case, the ground water extraction would be made, which will have deleterious impact on existing water bodies located in the Northern Ridge which is within 500 meters from the proposed project.

24. In fact, the Central Ground Water Board (CGWB) notified the areas for control and regulation of ground water which includes South Delhi, South West Delhi and Yamuna flood plain area in Delhi with effect from 2000. Groundwater in Delhi is already overexploited and the project area is in a semi-critical state, where no ground water can be drawn unless there is a permission from the Central Ground Water Authority after satisfying the recharge obligation. The ground water in the project area is saline in

nature and the sulphate content is already high. Further, the total water requirement is restricted to 257029 Litres per day (as per the DJB Clearance dated 07.02.2015). However, it is now submitted by the M/s Young Builders in its water balance study (**See Annexure 22 for water balance study**) that it would now be 332 KLD which is a substantial increase without any further clearance from DJB.

25. Further, under Table 8 of Form IA of Application of EC of M/s Young Builders providing the summary of potential impacts and remedial measures, regarding the aspect of Ground Water Quantity leading to Ground Water Depletion, it is mentioned that no significant impact on surface/ground water quantity is envisaged in operation phase. This shows that the project will use groundwater whereas such a project would have severe impact on the Groundwater availability as it is already a semi-critical area and no permission from CGWA has been provided and therefore an assessment in this regard is imperative. The conditions enumerated under the EC dated 23.03.2018 for construction phase provides that prior permission from DJB shall be obtained for withdrawal of groundwater which also shows that the project will involve extraction of groundwater. No such undertaking has been given by the Project Proponent yet that they are never going to use the Groundwater during or post the construction phase.

V. Non-compliance of Office Memorandums of the MoEF&CC

26. The Office Memorandum dated 10.11.2015 (**Annexure 23**) provided thrust areas to be evaluated by the SEIAA/SEAC before a building project is given EC. These thrust areas alongwith the discrepancies observed towards them are reflected herein below:

- (i) **Description of the project location and its surroundings:** No Mention of Delhi University and Viceroy Building (Heritage Site) which is adjacent to the proposed site in Form I and IA. Concealment of Fact that Najafgarh Drain which is a critically polluted area is nearby the proposed site under entry 11 of Form 1
- (ii) **Water Balance Chart:** Updated Water Calculation and water mass balance was submitted on 09.03.2018 and 13.03.2018. The letter dated 13.03.2018 has no receiving from SEAC/SEIAA. The capacity of STP shown in 09.03.2018 is 200 KLD and in 13.03.2018 letter is shown to be 275 KLD. The figures of investment in increasing the capacity of the plant has not been mentioned. (See Annexure 24 for Water Balance Chart dated 09.03.2018 and See Annexure 22 for Water Balance Chart dated 13.03.2018)
- (iii) **Alteration in natural slope and drainage pattern:** No information in this regard available in records.
- (iv) **Groundwater potential of the site and likely impacts:** The said area is within semi-critical area as per Dynamic Ground Water Study of 2017 and hence Clearance from Central Ground Water Authority is necessary. No information in this regard is available on record. Further, under Form IA, for entry regarding potential impacts towards Ground water Quality leading to Ground Water Depletion, it has been provided that source of water is taken from Municipal Supply, however it not clarified as to whether any Ground water will be taken during operation or post operation phase. Nonetheless for conclusion it is mentioned that no significant impact during operation phase on surface/Ground

water is envisaged from the project which is a wrongful submission. The said submission indicates that Groundwater could be extracted in operational phase. That contrary to this, under letter dated 09.03.2018 submitted by M/s Young Builders to SEAC in response to queries raised in 95th meeting dated 24.02.2018 it is specifically submitted that no Groundwater Extraction is involved in the project (**See Annexure 25 for response dated 09.03.2018 of M/s Young Builders**).

- (v) **Socio-economic impacts:** the socio-economic impact on the University area not considered, especially the fact that privacy of the neighbouring women's hostel will be hampered due to the project.
- (vi) **Energy Requirement to minimize power and promote use of renewal energy sources:** In this regard it is submitted that only 1% of total electrical load is submitted will be fulfilled from solar energy (**See Annexure 26 – Solar PV Panels Details**)
- (vii) **Thrust area covers water potential, disaster assessment/ disaster management, socio-economic impacts etc.:** Significantly, the socio-economic impact on the University area, especially the neighbouring women's hostel has not been considered.

Similarly, the MoEF&CC Circular dated 25.10.2017 (**Annexure 27**) relating to recommendations of the CAG after a performance audit of impact assessment division has not been complied with in letter and spirit

VI. Non-recording of dissents of SEAC members

- 27. Two members of the Delhi SEAC viz. Dr. Suman Lakhanpaul and Dr. Anupam Chattopadhyay have given letters/articles stating their objections

to the project. The letters show that the objections had been raised but the minutes did not record the same (**See Annexure 28 & Annexure 29 for letters of Dr. Suman Lakhanpaul and Dr. Anupam Chattopadhyay respectively**). This itself makes the EC bad in law.

VII. Waste Management

28. The Solid Waste Management Rules, 2016 mandate the operator of solid waste management plant to strictly adhere to its provisions. The operator in the instant case has not even taken approval from the State Pollution Control Board (SPCB). The proposed project proponents have not given any plan or details of the STP, use of technology, location of plant, the area required for its installation, and the location and mode of disposal of discharge after the treatment. Without having any basic and holistic understanding of the situation and in absence of even a plan, CPCB in its Affidavit dated 09.08.2018 (**See Annexure 30**) filed before the NGT submitted that DPCC and DJB shall ensure compliance with necessary parameters by the proposed project proponents.

VIII. Non-compliance of Fire Safety Standards

29. The EC has been granted subject to the availability of fire-fighting equipment as per the National Building Code. In view of the judgment of the Hon'ble High Court of Delhi in the matter of *Vikas Singh v. Lt. Governor and Others* (Order dated 20 January 2016) (**See Annexure 31**), which states that Delhi Fire Service does not have the requisite equipment to deal with a fire incident at such a high-rise construction and

the practicality of carrying out fire-fighting through the congested, narrow arteries, namely, Cavalry Lane and Chhatra Marg, compliance with the Guidelines for High-Rise Buildings dated 6 June 2013 is highly questionable and improbable. Furthermore, the clearance-dated 08.09.2017 (See Annexure 32) given by the Delhi Fire Service to the said project cannot be relied upon, as the clearance has been given based on road widths of 24m and 18m, which is factually incorrect. The actual width is 8.5 metres as mentioned above. The said clearance therefore may be treated as bad in law as it is based on misleading facts.

IX. Severe Impact on the Delhi Ridge

30. The proposed project is located near the Northern Ridge (known as the green lungs of Delhi), which is a reserved forest. SEIAA has not examined the adverse consequences of the project on the Northern Ridge. No consultation with the Ridge Management Board (the nodal agency for the protection of Delhi Ridge) about the proposed project has taken place, which ought to have been done.

X. Seismic and Geo-Technical Parameters

31. The proposed project is located in the seismic zone IV category and is highly susceptible to subsidence and liquefaction during a medium to major earthquake as is evident from the study of Dr. KS Rao of IIT, Delhi dated 23.01.2020 (See Annexure 33) which opines that intense infrastructure development in area around Delhi University should be avoided for the said reason.

32. In fact, in an order-dated 18.06.2020 in WP (C) 4534 of 2015 filed before the Hon'ble High Court of Delhi viz. *Arpit Bhargava & Anr. v. North*

Delhi Municipal Corporation &Ors.. it was stated that – “...*the city of Delhi is not at present in a state of readiness in terms of seismic structural stability of buildings...*” (See **Annexure 34** for order dated 18.06.2020).

33. The proposed project proponent relies on 2011 Geo-Technical Investigation Report without undertaking a fresh study of the implication arising out of the increased built-up area and the number of floors. The soil investigation report of M/s Rao Engineering Enterprises is of 2011 (See **Annexure 35**). and further based on the assumption that the proposed project would be G+23-29 storied. Evidently, the project is of a greater scale now and hence the said report cannot be relied upon. No fresh seismic study has been submitted in this regard.
34. With respect to the Soil Investigation Report by M/s Ground Engineering Ltd. of 2018 (See **Annexure 36**), it is submitted that there is no proof that the said material was presented to the SEIAA for its consideration. In any event, the said report states that the ground water table was encountered by varying depths of 8.45m to 10.20m below the existing ground level. The Foundation Report produced by the M/s Young Builders states that the final excavation depth would be around 12m below the existing ground level and would necessitate lowering of the ground water table (See **Annexure 37 for the Foundation Report**). This, in itself, shows that the project is subject to liquefaction.
35. Further, it is evident to point out that a letter dated 11.01.2020 of Civitech issued to Ms/Young Builders (**Annexure 38**) was filed before the Hon'ble Supreme Court in Civil Appeal No. 341/2020 filed against order dated 08.01.2020 of this Hon'ble Tribunal. The said letter approves a Soil Investigation done on the project site in question on 27.05.2009. The said letter has been suppressed from this Hon'ble Tribunal for reasons best known to the

M/s Young Builders. Even though the said letter becomes irrelevant in consideration of Soil Investigation Reports of 2011 of M/s Rao Engineering Enterprises and 2018 of M/s Ground Engineering Ltd however, an extra effort was made to bring such letter on record to justify the soil investigation conducted in the year 2009. The said letter poses question on the reliability of the report of 2011 and 2018, especially considering the fact that there is no proof as to whether the 2018 Report has actually been submitted to SEIAA/SEAC or not.

36. Such a mega building project will be susceptible to 'subsidence and liquefaction' during a medium to major earthquake in the region. SEIAA erroneously relied on the old Geo-Technical Investigation Report of the proposed project proponents and granted environmental clearance ignoring expert opinion and seismic vulnerability of the site.

XI. Non-compliance of Request for Proposal

37. The proposed project proponents violated para 7 of the salient features of the Request for Proposal (RFP) of DMRC wherein it is stipulated that it would be desirable to minimise tree cutting, retaining a minimum of 50% number of trees. Further, para 7 states that old trees of bigger girth being the ones not to be cut. However, 156 trees have been removed from the proposed project site. The Department of Forest and Wildlife, Government of NCT of Delhi in its affidavit dated 10.10.2018 (**Annexure 39**) before the NGT in the instant matter submitted that the permission for felling of 156 trees was granted to the proposed project proponents on 25/05/2011. Out of the 1560 saplings to be planted as part of compensatory plantation in lieu of felling of 156 trees, 780 saplings were planted at I.T.O. Chungi Part (6) by the Department of Forest and Wildlife, Government of NCT of Delhi in 2012. However, no information has been submitted by the proposed

project proponents about the compensatory plantation of 780 saplings assured by them in spite of several reminders seeking compliance report by the Department of Forest and Wildlife, Government of NCT of Delhi. As per the Report dated 04.02.2009, the project proponent while seeking permission for felling trees has expressed his readiness to undertake compensatory afforestation at his private agricultural land in village Singhola, Delhi. Afforestation on the owner's individual/private land is not in the norms of Compensatory Afforestation regulation in India.

XII. Gateway for expansions of buildings in the area

38. The proposed project of about 140 mtrs height may not remain a stand-alone project. The neighbouring owners may also seek environmental clearance for their respective (re)construction projects of the same height on parity and precedence, and this will cause havoc to the University of Delhi. Clearly, no Government, State or Central – will ever wish to see the nation's best seat of higher learning and repute to wither away by the wanton destruction that is heralded by this proposed high-rise construction.

XIII. Privacy –Eco system-disturbances

39. One of the central indicators to determine the feasibility is the probable impact of proposed project on eco-system or the surroundings of a site. Given the fact that determination of such a composite parameter depends upon indicia detailed above but added to the same is "ease quotient" of current inhabitants, which is ipso facto vulnerable in the context of systemic breaches on above explained core parameters. More serious concern which proposed project puts into the safety and security of the students of the University of Delhi, especially the girl students and

women employees. The housing project is proposed at a site which is right adjacent to a women Hostel. The building being tall makes the Girls Hostel open up for various eyes to look into their shelter homes hampering their privacy and also security and safety. The proposed project with unknown residents and their visitors with hitherto unknown social mores and values will seriously compromise the safety and security of the girl students and women employees. This social concern can neither be undervalued nor ignored by the regulatory and law enforcing agencies.

40. Further, the differently abled students, particularly the visually impaired students use the Chhatra Marg and Cavalry Lane roads (the entry and exit points of the proposed project) for accessing the University and the project would overburden the narrow lanes and disrupt the easement of students walk to the University and could also endanger it.

XVI. Concealment of Facts by M/s Young Builders in application for EC

41. The following facts were concealed by M/s Young Builders while making application for EC which ought to have been disclosed and thereby considered:

- Delhi University and Viceroy Building (Heritage Site) which is adjacent to the proposed project are not mentioned in Form 1 (**Annexure 40 – Form I**).
- Concealed of information in Form 1 against entry 11 where information regarding areas which are already subjected to pollution or environmental damage (those where existing legal environmental standards are exceeded) is required to be provided. The Najafgarh Drain which is a critically polluted area is at and close distance with the proposed site and therefore the same should have been mentioned under this column. Such concealment has been considered bad in law.

XV. No analysis on carrying capacity of the area

42. The Hon'ble National Green Tribunal in *Anil Tharthare v. Secretary, Env't. Dept. Govt. of Maharashtra* 2019 SCC OnLine NGT 876 has held that carrying capacity is integral to the principle of Sustainable Development. Further, it was held that the tapping of resources has to be done with the realistic approach of the capacity of a city or area so that the environment may not be affected in a serious way.
43. The aforesaid judgment in an appeal before the Hon'ble Supreme Court in *Keystone Realtors Pvt. Ltd. v. Anil V. Tharthare* 2019 SCC OnLine SC 1543, the Hon'ble Supreme Court has held that where a project is expanded in size, the environmental impact of the surrounding area is to be evaluated holistically considering all relevant factors including air and water availability and pollution, management of solid and wet waste and the urban carrying capacity of the area.
44. In the instant case, no analysis has been done with respect to the carrying capacity of the area. The above clearly shows that the area is already operating beyond its capacity and cannot assimilate an intensive project such as the one proposed.

The applicant thus request the Committee to examine the above aspects, interalia, stated above in terms of carrying capacity. The applicant –further wishes to provide certain technical inputs after physical resumption of University to this Committee to enable it to have better ground perspectives on whole issue. Liberty is also craved for oral hearing and presentation in the matter in accordance with law.

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ANNEXURE-1

NON-REPORTABLE

IN THE SUPREME COURT OF INDIA

CIVIL APPELLATE JURISDICTION

CIVIL APPEAL NO.2485 OF 2020

M/s. Young Builders Private Ltd.

...Appellant(s)

versus

University of Delhi & Ors.

...Respondent(s)

O R D E R

(1) We have heard Mr. Shyam Diwan, learned senior counsel appearing for the appellant. We have also heard Mr. K.V. Vishwanathan, learned Senior counsel appearing for respondent No.1-University of Delhi and Mr. Tushar Mehta, learned Solicitor General appearing for respondent NO.4-Delhi Metro Rail Corporation.

(2) By Order dated 27.02.2020 the National Green Tribunal, Principal Bench, New Delhi, has constituted a Committee as to the viability of the Project having regard to the existing environmental status and the impact of the Project on the recipient environment including ambient air quality.

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GEETA AHUJA
Date: 2020.06.12
18:30:15
Reason:

(3) Mr. Shyam Diwan, learned senior counsel appearing for the appellant, inter alia raised various contentions

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that the appellant earlier obtained environmental clearance on 13.08.2012 which was challenged by University of Delhi which was rejected up to the Supreme Court. Therefore because of change of laws, a fresh environmental clearance was obtained on 23.03.2018 which is the subject matter of the present appeal. He has further contended that the National Green Tribunal was not justified in constituting a Committee de hors the rules, and the appellant is therefore aggrieved by the impugned order.

(4) Mr. K.V. Vishwanathan, learned senior counsel appearing for respondent no.1-University of Delhi, has submitted that the earlier clearance dated 13.08.2012 does not survive on account of change of law, and the appellant has obtained a fresh clearance on 23.03.2018 which is the subject-matter of challenge by the University of Delhi. The National Green Tribunal has rightly constituted the Committee to examine the various aspects of the project.

(5) By the impugned order, the National Green Tribunal has constituted a Committee comprising of various experts and also representatives of the Ministry of Environment and Forest (MoEF) and Climate Change (CC) and other

experts.

(6) We direct the Committee to examine various aspects including the viability of the Project without being influenced by any of the opinions expressed by the National Green Tribunal in the impugned order. The appellant, University of Delhi and Delhi Metro Rail Corporation are at liberty to file their respective representation along with requisite documents before the Committee within the period of two weeks. The Committee before it starts its first deliberation shall afford an opportunity of preliminary hearing to the appellant, University of Delhi and Delhi Metro Rail Corporation. Likewise, the Committee shall also afford a further opportunity of hearing to the appellant, University of Delhi and Delhi Metro Rail Corporation before it submits its final report before the Tribunal.

(7) The Committee shall complete the deliberation and submit its final report within two months from the date of the representation being filed by the appellant and University of Delhi and Delhi Metro Rail Corporation. The Member Secretary, Central Pollution Control Board, shall coordinate and take necessary steps for convening the meeting of the Committee. The meeting of the

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Committee shall be conducted by virtual hearing, or video conferencing, and afford an opportunity of hearing to the representatives of the parties, mentioned above.

(8) After submission of the final report by the said Committee, the appellant, University of Delhi and Delhi Metro Rail Corporation are at liberty to raise all the contentions/points before the National Green Tribunal.

(9) Since we have directed the Committee to examine the issue without being influenced by any of the opinions expressed by the National Green Tribunal, it is not necessary to pass any further direction. The civil appeal is accordingly disposed of with the above direction and observation.

.....J.
(R. BANUMATHI)

.....J.
(INDU MALHOTRA)

.....J.
(ANIRUDDHA BOSE)

NEW DELHI
DATED : 10.06.2020

ANNEXURE - 2**6**

Item No. 01

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Appeal No. 112/2018

University of Delhi

Versus

Appellant(s)

Ministry of Environment Forest and
Climate Change & Ors.

Respondent(s)

Date of hearing: 10.02.2020

Date of uploading on the website: 27.02.2020

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S.P WANGDI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER
HON'BLE MR. SIDDHANTA DAS, EXPERT MEMBER

ORDER**Introduction**

1. This appeal has been preferred against the order of the State Environment Impact Assessment Authority (SEIAA), Delhi dated 23.03.2018, granting Environmental Clearance (EC) for "Group Housing Complex located at 1 and 3 Cavalry Lane and 4 Chhatra Marg at Civil Lines Delhi" by Young Builders (P) Ltd. The project is proposed on an area of 20,000 sq.m. with built up area of 1,17,733.81 sq. m. with four towers of 139.6m. height having 410 dwelling units. The total floors proposed are S+G+37 with 31,740.26 sq. m. of basement area. The EC was earlier granted in 13.08.2012. An application was submitted for amendment of the EC on 12.02.2018. According to the appellant, as per requirement of notification dated 14.09.2006, prior to its amendment on 22.12.2014, the project was to be treated as Category A to be dealt with by

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MoEF&CC. To avoid such procedure, the project proponent prayed for treating the application as a new project after 20.12.2014. The SEIAA declared the earlier EC to be null and void and treated the application for amendment as a fresh application.

Pleadings and contentions of the appellant

2. Case of the appellant in the memo of appeal, written submissions and during arguments is that the land on which project has been proposed originally belonged to the Ministry of Defence. The same was acquired for development of Delhi Metro Rail project vide award dated 19.09.2001 passed by the Land Acquisition Collector, Delhi. A parcel of land admeasuring 3.05 hectares situated at Mall Road, Cavalry Lane and Chhatra Marg, falling in Zone - C (Civil Lines Zone) of the MPD-2001 was handed over to and mutated in the name of Delhi Metro Rail Corporation (DMRC). The land use was categorized under the MPD - 2021, as "public and semi-public facility". The land use was later changed to residential purpose. DMRC proposed to develop a part of the land for group housing for which Lease Agreement dated 15.12.2008 was entered into with the project proponent - M/s Young Builders Private Limited for 2 hectares of land. Possession of the site was given on 23.01.2009 to the said builder.
3. The appellant University objected to the project on the ground that it will affect ambience and character of the university. The project proponent has removed/ transported 156 trees at the construction site in question on 25.05.2011 after permission from the Forest Department. The University represented to the State Expert

Appraisal Committee (SEAC) and DPCC on 08.02.2012 against the project. The matter was also raised before the High Court against transfer of public land to a private builder but the High Court did not interfere with the transfer of land for the project vide judgment dated 27.04.2015 in W.P. (C) No. 2743/2012. The Division Bench dismissed the appeal as barred by limitation which order was affirmed by the Hon'ble Supreme Court on 17.12.2019 in C.A. No. 9488-9489 of 2019. It is submitted that even if in view of the said judgment, the transfer of the land may have become final, validity of grant of Environmental Clearance (EC) is open to challenge which issue needs to be gone into by this Tribunal.

4. Main contention in support of the challenge to the grant of EC is that the same is vitiated as essential facts have not been disclosed in the application of the project proponent. SEAC and SEIAA have not applied mind to various facets of impact of the project on the environment particularly carrying capacity in terms of air quality, noise level, ground water etc. Reliance has been placed on judgment of the Hon'ble Supreme Court in *Hanuman Laxman Aroskar Vs. Union of India*, 2019 SCC Online SC 441 to submit that in such circumstances, EC is liable to be set aside by this Tribunal in exercise of power of merit review on the anvil of Sustainable Development and Precautionary principles.
5. It is stated that the project is within 10 kms. of interstate boundary (Delhi – UP) and critically polluted areas (Najafgarh drain, Wazirpur, Naraina and Anand Parbat area) which would have rendered the project to be categorized as Category A as per EIA Notification dated

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14.09.2006, prior to amendment on 22.12.2014. Even if the project is to be treated as category B and dealt with by SEIAA, evaluation of carrying capacity of recipient environment to sustain project of such magnitude which is said to be tallest building of more than 37 floors having 410 dwelling units was required to be conducted thoroughly. On the subject of suppression of material facts, it is submitted that the area is covered by the notification of silence zone under the Noise Pollution (Regulation and Control) Rules, 2000 being Notification dated 03.04.2008 issued by NCT of Delhi¹ being within 100 meters from Delhi University and Vallabhbhai Patel Chest Institute which is a super specialty hospital. Apart from the university and its hostels, there are also schools in the area. The project is within 500 mtrs. of the Northern Ridge and no consent from Ridge Management Board has been taken. Reference has also been made to the provisions of the Master Plan of Delhi (MPD), 2021. Prohibition against construction is applicable not only in the Ridge as such, which is notified as a reserved forest, but also for a project very close to and impacting the Ridge in view of Sustainable Development principle.

Morphological Ridge includes area falling outside the notification but having features of the Ridge and forming part of extension of Aravali. In the present case, even the DMRC took permission of the Ridge Management Board for the DMRC project but no such permission has been sought for the present project.

¹ ".....the Lieutenant Governor of the National Capital Territory of Delhi hereby declares the following areas as "Silence Areas/Zones" for the purpose of the said Rules, in the National Capital Territory of Delhi, namely:-

1. An area of 100 meters around all Educational Institutions having more than one thousand students;
2. An area of 100 meters around all Courts;
3. An area of 100 meters around all Government Office Complexes;
4. An area of 100 meters around all 100-bedded and above hospitals."

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According to the appellant, the Delhi Ridge is made of quartzite rocks, of which Stone Age tribes used to make tools. In fact, archaeologists have discovered Stone Age 'factories' along the Delhi Ridge, evidence of the widespread production of tools. Stone Age tribes were also drawn to the dense forest cover of the Ridge, which provided food (both plant and animal) and shelter. Further, there was plentiful water, a point still relevant today. Delhi is one of the most historic capitals in the world, finding mention in the ancient epic Mahabharata. Two natural features of the city, the Ridge and river Yamuna, have made it a protected and favourite place for rulers over the ages. Therefore, the battle for protecting Delhi's "Green Lungs" started long ago. In the 14th century, the Ridge forest was covered with thorny shrubs with very little green cover. Emperor Feroze Tughlaq, who was very fond of hunting, afforested the rocky southern part of the Ridge on which Ghiyasud-Din Tughlaq built the fort city of Tughlaqabad. The efforts for betterment of the Ridge continued post-independence and it has become more pressing, regard being had to the incremental change in pollution level. Therefore, for the effective maintenance of the Ridge, the Ridge Management Supervisory Committee was constituted that gave various recommendations, including:

- "1. All areas of the ridge should be declared as Reserved Forest under Section 4 of the Indian Forest Act, 1927. The Environmental (Protection) Act, 1986, should be invoked at the time of notification of the area as a Reserved Forest."*
6. The appellant has thereafter referred to the provisions of the Master Plan prohibiting tall buildings in the University area. Clause 11.3 and

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Clause 1.4.4 of the Zonal Development Plans have been referred to as follows :

“Clause 11.3 imposes a restriction on the height of tall building as under:-

*“The height of buildings (above and below ground) needs to be seen in the light of modern technology with due consideration for natural disasters like earthquakes, floods etc. Restrictions on tall buildings would be necessary in important areas like Lutyen’s Bungalow Zone, **Civil Lines and North Delhi Campus**. In case of urban extension, areas for specific Urban Design Projects and tall buildings should be indentified.”*

“Clause 1.4.4 of the Zonal Development Plan for Zone-C (Civil Lines) under the MPX-2021 provides as under:

“The Delhi University was established in 1924 and it has a number of old historical buildings, colleges, Viceroy’s lodge etc. of the Colonial period and therefore efforts shall be done to preserve this character. Also efforts shall be done to make it an Integrated Campus (Without thoroughfare) and self-sufficient in terms of modern infrastructure and residential requirements like hostels, staff quarters, security arrangements etc., by optimum utilization of the land. Attempt shall be made to accommodate all institutional requirements within the Campus.

***Therefore, an Urban Design study shall be taken up for this sub-Zone. MPD-2021 has restricted this area for tall buildings.** Delhi University has a large chunk of land allotted in Sub-Zone C-15, (opposite Dushehra Ground) and it is being utilized as Hostel and staff quarters. Optimum utilization of this land shall be done to meet the requirements in future. Listed Heritage buildings, some residences and Colleges of historical importance prepared by DDA, INTACH, ASI and GNCTD are given.”*

7. It is submitted that no study has been carried out in respect of impact of the project on the noise levels. Noise levels are already beyond the permissible limit in the silence zone. The project proponent did not mention the existence of the University and the Vallabhbhai Patel Chest Institute in the application. Deliberate concealment of vital information rendered the application for grant of

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EC liable to be rejected under the Regulation 8(vi) of the EIA Notification, 2006. Probable increase in the noise level due to 410 dwelling units proposed will be more than a Leq of 70 dBA over a 24-hour period. This factor has not been taken into account. Given the peculiar location where the project site proposing the tallest building in Delhi is located at Chhatra Marg, University of Delhi, adjoining the Vishwavidyala Metro Station on the one side and the University residences/ departments / schools on the other sides, the SEIAA has failed to take into account the probable adverse impact qua noise that this project will generate.

8. With regard to air pollution, it is submitted that project proponent concealed a report on Group Housing at Mall Road in July 2011 (prepared by Engineering and Planning Consultants, New Delhi). Detailed Traffic Management Plan Report prepared by Professor Geetam Tiwari, IIT Delhi has been relied upon. The report states that between 2011 and 2018 traffic in the area, congestion and pollution figures have varied/ increased considerably which has not been considered. On the subject of impact on traffic, it is stated that the traffic in the area remains high because of the large movement from Vishwavidyalaya Metro Station to Kamla Nagar, Shakti Nagar, Malkaganj and other nearby residential and commercial locations. This traffic figure is in addition to the volume of commuters to and from the University and its various colleges/departments/ faculties/schools on the North Campus area. Currently, about 50,000 people use other modes of transport to connect with these places apart from large vehicular movement on daily basis. Entry to Vishwavidyala Metro Station due to the current project is itself a

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hindrance as the space connects the Metro Station and Chhatra Marg and Cavalry lane is less than 8.50 meters. Due to no parking being available outside the Metro Station, vehicles are parked randomly which occupy almost the whole of service lane for Metro. Due to this peculiar feature, the DMRC itself has used the land of the proposed project as parking site. According to the DMRC website, the ridership/footfall at the Vishwavidyalaya metro Station alone is around 25,000 persons. In fact, during the admission season in the University of Delhi, in June 2011, the ridership was around 42,000 persons. Increment of at least 900 vehicles is expected due to the operation of the proposed project. It has the potential to cause appreciable increase in vehicular pollutant in the atmosphere of the area which is already polluted. The increase in traffic congestion will make an already congested area totally non-commutable. Even the parking stipulated at the project site in question is insufficient for its own occupants and no yardstick has been adopted by the SEIAA to determine if the parking proposed by Respondent No.4 is capable of catering to the needs of its inhabitants during the operation phase. The width of Chhatra Marg and Cavalry Lane are 10.80 m and 8.5m respectively. Large number of vehicles and about 50,000 people commute on it on a daily basis. Due to the proposed project, there is an estimated addition of 900 vehicles and commuters on existing public infrastructure of two roads which are disproportionately high and make the area risk prone.

9. With regard to the water requirement, it is submitted that the Delhi Jal Board is stated to have given water supply clearance and it states that the total water requirement shall be restricted to 2,57,029 liters

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per day. For 1,785 persons, this translates to 144 liters per person per day according to the Delhi Government's Water policy for Delhi (2016), the domestic water demand. Having no cogent indication of the basic norms, the whole burden for meeting water requirement will shift to ground water which will hamper the environmental protection afforded to this area. In such a case, the ground water extraction would be made, which will have deleterious impact on existing water bodies located in the Northern Ridge which is within 500 meters from the proposed project. Central Ground Water Board (CGWB) notified the areas for control and regulation of ground water which includes South Delhi, south West Delhi and Yamuna flood plain area in Delhi with effect from 2000. Chemical constituents in ground water beyond BID norms have been reported from Delhi as follows (contaminated areas, CGWB):-

| | | |
|---|--|---|
| Fluoride (above 1.5 m/g1) | Nitrate (above 45 mg/1) | Heavy metal: Lead (above 0.01 mg/1) |
| | | Cadmium (above 0.003 mg/1) |
| East Delhi, New Delhi, North West Delhi, South Delhi, south West Delhi, North Delhi, West Delhi | East Delhi, Central Delhi, New Delhi North Delhi, North West South Delhi, Delhi, South West Delhi, West Delhi | Lead: Along Najafgarh drain in North, West and South-West districts Cadmium: Southwest Chromium: Northwest, South, new Delhi, East |

As per information supplied by CGWB (Ground Water Information Booklet of North District, NCT, Delhi, published by CGWB, Ministry of Water Resources, State Unit office, New Delhi,

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2013), the entire North Delhi district is a 'notified area' by the Government of NCT of Delhi for regulating extraction of ground water. Major ground water problems identified by the Board in this area are as follows:

- i) Ground water in deeper zones is saline. Depletion of ground water levels is attributed to over-exploitation of ground water. Example, higher Fluoride content at Kingsway Camp (500 meter away from the site in question).
- ii) North District is bounded by the Yamuna River. The district falls in Yamuna sub-basin and forms part of the Ganga basin. The entire district forms part of Yamuna River water shed. The river Yamuna, bordering eastern part of the district, controls the entire drainage system. Parts of western Yamuna Canal, Najafgarh drain and other minor drains flow through North district. This district has prestigious Delhi University, Northern Ridge, ISBT and Tis Hazari Courts. The forest cover of the district is 4.81 sq. Km. Approximately, 0.24 sq. Km. Area of the district is under water bodies.
- iii) Around 40% of the North district is under Yamuna Flood Plain, which is further divided into Active flood plain and older flood plain. The southern part of the district has a thin alluvium cover over Quartzite rock, which is extension of Delhi Ridge near Wazirabad Barrage. Though the development of ground water is not much in the district, in view of the depleting water levels, sustainable management of this precious natural resources is extremely important. The slope of the district is towards south by 0.40 m/km but at places adjoining Delhi Ridge, it gets elevated. Due to this, just northern adjoining areas along the Delhi Ridge form depressions and have been converted into the water logged area.

10. The appellant has referred to the order of the Hon'ble Supreme Court in *M.C. Mehta V. Union of India*² wherein observations have been made about the groundwater scenario in Delhi. After perusal of the Report submitted by the CGWB for its consideration, the Court observed that there is over exploitation of ground water in south

² (2019) 12 SCC 546

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District, New Delhi district, South East District, East District, Shahdara, North East District, and almost rest of Delhi is in a semi – critical state.

Thus, the use of ground water for such large project as one proposed by Respondent No.04 will cause depletion of ground water level and thus the same should not be allowed. Depleted ground water conditions will seriously damage the vegetation in the Ridge and also the North Campus of Delhi University.

In such circumstances, the grant of EC is improper when the water requirement cannot be met and it affects the overall capacity to sustain such project.

11. With regard to waste management, the stand of the appellant is that the Respondent No.4 has not provided any details of STP plants, use of technology, location of plant, the area required for its installation, and the location and mode of disposal of discharge after the treatment. Therefore, the information provided by Respondent No.4 in column II (5) (6) of Form I of appendix I relating to solid waste and release of pollutant is grossly inadequate for the grant of environmental clearance. In fact, no approval from SPCB has been taken so far.
12. With regard to fire safety standards, it is submitted that availability of space for conducting a fire-fighting operation is highly questionable in the light of extremely narrow and congested Cavalry Lane on the one side and Chhatra Marg on the other, which is stipulated as the only emergency passage in the impugned EC. Congested Cavalry Lane, which is mentioned as the entry and exit of the proposed

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project, is too narrow to cope with the situation of any firefighting operation in the proposed housing complex.

13. The appellant has then referred to the Geo – Technical Investigation and Liquefaction Potential. Reliance has been placed on the studies conducted by L. Thoithoi, P.S. Ningthoujam, R.P. Singh, D.P. Shukla titled “*Liquefaction study of Subsurface Soil in part of Delhi University, North Campus*”. International Journal of Advancement in Earth and Environmental Sciences, 2013, Vol- I, No. 1. Pp.14-22 records:-

“Any high-rise or mega building project will be susceptible to subsidence and liquefaction during a medium to major Earthquake in DU north campus area which lies in Seismic Zone IV.”

Pleadings and contentions of the project proponent and other opposite parties

14. We may now refer to the stand of the project proponent. The project proponent has filed its counter affidavit on 13.08.2018. It is submitted that project does not fall in silence zone. It is also submitted that the University itself has undertaken several construction projects and therefore there will be no violation of the noise norms. The project proponent has submitted traffic management report. There will no impact on increase of traffic on the air around the project. The DJB has already given clearance on the issue of water availability. Ground water problem has no relevance. The project proponent will comply with the waste management rules. Fire safety norms will be met. There will be no negative impact on the Northern Ridge. It is further stated that the distance of the project

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from the interstate border (Delhi-UP) is 15 kms. Moreover, vide notification dated 22.12.2014, EIA Notification dated 14.09.2006 has been modified and project cannot now be taken to be Category A. Permission for felling trees was rightly granted. There is no violation of the Master Plan. Due permission has already been granted for construction of the group housing complex. Closeness of the project to Super Specialty Hospital and Delhi University is well known and was not required to be mentioned in the application. It is wrong to assume there will be high density of transport. Air pollution has been duly considered. There is neither any increase of the traffic because of the project nor addition to vehicular pollution. The Geo Technical Registration and Liquefaction Potential has been properly assessed. The project proponent has annexed a copy of the report dated 09.02.2012 of five Members sub Committee constituted by SEAC to consider objections of the Delhi University to the project. On the subject of objection of high rise building, it was observed that the project has been approved by the Chief Town Planner. There is no restriction against construction of tall building in the area. This objection has been negated by the High Court. SEAC may assess the traffic load. With regard to the change of land use, it was submitted that the land use was as per Notification dated 23.09.2005. On the subject of seismic threat, it was submitted that for the area in seismic zone IV, structure designs may be looked into by the sanctioning authority. With regard to the traffic impact, it was observed that the contentions are based merely on apprehension and the matter is covered by the Court judgment. Any deviation will amount to contempt of Court. Environmental concern may be appraised by the

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SEAC. However, one of the members Shri Chinmaya R. Gharekhan held a different view to the effect that the project will have adverse effect on the general environment.

15. We may also refer to the pleadings of other opposite parties. Stand of the DPCC in its affidavit filed on 07.08.2018 which is now Secretariat to the erstwhile SEIAA is that tenure of SEIAA was ended over on 31.03.2018. There is no officer who can present SEIAA now. Stand of the North Municipal Corporation of Delhi in its affidavit file on 13.08.2018 is that the building plan has been rejected on 10.04.2018. Objection of the University are to be referred back to SEIAA. The project proponent has filed WP (C) No. 5574/2018 against rejection of the building plan. Affidavit of CPCB dated 13.08.2018 is formal and does not deal with the merits. Reply of the MoEF&CC dated 13.08.2018 is also on similar lines. So are the replies of DMRC dated 05.10.2018, Delhi Govt. and Delhi Fire Services 10.10.2018. DDA, in its reply dated 15.10.2018, has referred to the order of Delhi High Court dated 18.05.2011 in W.P. (C) No. 3135/2010 that development control norms for Metro Station will apply to the land developed for Metro and for land leased out, development norms as per MPD - 2021 will apply, including 200 FAR without restriction of height. Reply of the Ministry of Defence dated 01.02.2019 is that commercial use of the land by the DMRC by transfer to a private builder is not permissible. Reply of the DJB filed on 01.03.2019 is that it has no role in the matter of EC. Delhi University has filed rejoinder to some of the affidavits. The project proponent has also filed additional affidavit on 19.08.2019. It is not necessary to mention the details thereof for dealing with the issue herein.

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Proceedings till date

16. The appeal was filed on 10.07.2018. Notice was issued on 12.07.2018. The matter was adjourned on 14.08.2019, 13.09.2018, 11.10.2018, 01.11.2018, 20.12.2018, 11.01.2019, 24.01.2019, 20.02.2019, 06.03.2019, 27.03.2019 for completing pleadings. On 08.04.2019, 29.04.2015, 29.05.2019, 15.07.2019 and 22.07.2019, the issue of condonation of delay was dealt with and by the last mentioned order the delay was condoned and main matter was directed to be listed for hearing. On 19.08.2019 and 09.10.2019, the matter was adjourned on the request of one or the other party. On 11.10.2019, the matter was deferred to await proceedings in Hon'ble Supreme Court (on the issue of validity of transfer of land in favour of the project proponent). The matter was further adjourned on 18.11.2019 and 02.12.2019. It was for the first time that the appeal was taken up and heard on merits on 08.01.2020. The Tribunal observed that earlier EC granted in 2012 having been declared null and void, there was no adequate data base for granting EC on 23.03.2018. Accordingly, the Tribunal constituted a joint Committee to undertake carrying capacity study of the area with reference to the project in question based on relevant data within two months and directed maintenance of *status quo* till then.
17. At the instance of the project proponent, Civil Appeal No. 341/2020 was filed in the Hon'ble Supreme Court with the grievance that all aspects had already been considered by SEIAA in its meeting held on 22.03.2018. A detailed counter affidavit had been filed which was not considered by this Tribunal before seeking evaluation by a joint

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Committee and granting *status quo* order. Reliance was placed on Minutes of the 57th meeting of SEIAA while granting EC. Accordingly, the Hon'ble Supreme Court held that a detailed consideration is necessary by this Tribunal before constituting a joint Committee and passing an interim order. The Hon'ble Supreme Court observed:-

“Though it is premature for this Court to advert to the correctness or otherwise of the same, while considering the correctness of the environmental clearance dated 23.03.2018 the material relied upon will have to be taken note at the outset by the NGT even before requiring any other report but there is no reference to all these aspects in the order. Further when the counter affidavit along with the documents were available on record a detailed consideration was necessary and only thereafter if any further report was required by constituting a committee the same would have arisen. However, in the order impugned such consideration is not indicated before requiring the constitution of a Joint Committee for evaluation. The consequential interim order passed would also, therefore, not be sustainable. In that view, the appropriate course would be for the NGT to take note of the contentions put forth by the appellant herein through their counter affidavit and the environmental clearance dated 23.03.2018 and take a decision in the matter. On referring to the contention and materials, the reason for the same not being sufficient or reliable would be an aspect to be recorded and take such further action. To enable such exercise the order impugned dated 08.01.2020 is liable to be set aside, which we accordingly hereby do.

In the result the appeal is allowed, the order dated 08.01.2020 is set aside. The NGT shall take note of the counter affidavit and the documents of the appellant and consider the matter on its merits and pass orders in accordance with law. The same shall be done in an expeditious manner. All contentions of the parties are left open.”

Further consideration of the matter

18. The matter was accordingly taken up 03.02.2020. On account of absence of counsel for the project proponent, it was deferred to 10.02.2020. The appellant expressed apprehension that the project proponent may continue with the project after taking adjournment. It was also stated that the stand of the project proponent before the

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Hon'ble Supreme Court that detailed counter affidavit covering all the aspects had already been filed was not correct as the project proponent has filed further affidavit and documents after the order of the Hon'ble Supreme Court. This Tribunal, while granting a short adjournment, directed that the project proponent may not proceed with further activities till consideration of the matter by this Tribunal. The matter was accordingly heard on 10.02.2020 and order was reserved.

Additional documents after order of the Hon'ble Supreme Court

19. We may at the outset mention that the project proponent has filed I.A. No. 75/2020 on 06.02.2020, after the order of the Hon'ble Supreme Court dated 28.01.2020, to place on record eight additional documents, including the minutes of 57th meeting of SEIAA. The appellant has also filed an I.A. No. 67/2020 on 01.02.2020 along with ten additional documents. We are however not making any comment on the issue whether the stand of the project proponent before the Hon'ble Supreme Court was factually correct.
20. We may now make a brief reference to the additional documents filed by the both the parties. The documents filed by the appellant are:-
1. Copy of letter dated 25.10.1943 by the Joint Secretary, Government of India to the Chief Commissioner of Delhi prohibiting high rise building in the neighborhood of Delhi University and its colleges, shown in the map covering 582.44 acres of land.
 2. Copy of study conducted by Prof. Geetam Tiwari, IIT Delhi, regarding sustainability of high rise building in the area.

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3. Copy of the opinion of Dr. K.S. Rao dated 23.01.2020 on the subject of earthquake vulnerability of the area.
 4. Copy of the office memorandum dated 10.11.2015 of MoEF&CC on the subject of parameters and thrust areas of environmental sustainability while appraising the Building and Construction and Township and Area Development projects.
 5. Copy of the chart showing requirement under the office memorandum dated 10.11.2015 and compliance done by the project proponent.
 6. Copy of the MoEF&CC circular dated 25.10.2017 to comply with the recommendation of CAG with regard to process of EC.
 7. Copy of the minutes of the meeting dated 24.02.2018 by SEAC.
 8. Copy of the office memorandum dated 04.01.2019 of MoEF&CC.
 9. Copy of the letter/article of Dr. Suman Lakhanpau who was member of the SEIAA and had expressed dissenting opinion with regard to the clearance of the project. On the ground that the high rise building was not viable in the area and Ridge will be adversely affected and there will be adverse effect in depleting the ground water.
 10. Copy of the letter/article of Dr. Anupam Chattopadhyay had expressed the opinion that construction of high rise buildings were not viable on account of earth quake potentiality.
21. The documents filed by the project proponent are:-
1. Copy of Form - I (application of EC dated 31.01.2018) seeking amendment of the EC granted on 13.08.2012.
 2. Copy of the presentation made by the respondent No. 4 before the SEAC on 24.02.2018.
 3. Copy of the minutes of the 95th meeting of SEAC held on 24.02.2018.
 4. Copy of the letter dated 09.03.2018 by respondent No. 4 to SEAC.
 5. Copy of the presentation by respondent No. 4 to SEAC dated 13.03.2018.

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6. Copy of the letter dated 13.03.2018 by respondent No. 4 to SEAC seeking amendment to the EC.
7. Copy of the minutes of the 96th meeting of SEAC held on 13.03.2018 and 17.03.2018.
8. Copy of the minutes of the 57th meeting of respondent No. 2, SEIAA on 22.03.2018.

22. Even though the appellant raised objection to filing of certain documents by the project proponent at this stage, without going into any technicality, we have considered all the documents filed by both the parties.

Issues for consideration

23. Several arguments have been raised on behalf of the appellant-University but we find it necessary to focus only on matters which we have found to be crucial having bearing on the validity of EC and impact of the project on the environment. This Tribunal has to conduct merit review in exercise of its appellate power to consider the validity of grant of EC as held in the judgment of the Hon'ble Supreme Court in *Hanuman Laxman Aroskar v. Union of India*³ (supra). As observed in the said judgment, the EIA notification intends to ensure that any project complies with the norms for protection of environment. Environment is essential facet of development. EAC and SEAC/SEIAA have to evaluate the information furnished by the project proponent in Form I which is crucial and serves as a base upon which the process of evaluation rests. Deliberate concealment or false or inadequate and misleading

³Hanuman Laxman Aroskar v. Union of India, (2019) SCC online SC 141, para 172

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information renders an application liable for rejection. EIA process is directly linked to Sustainable Development Goals (SDGs).

24. Thus, following issues arise for consideration:-
- (i) Whether full disclosure of relevant facts had been made by the project proponent in Form-I and I A which are the formats for application for EC.
 - (ii) Whether SEIAA has dealt with the matter, in granting EC, holistically, after due application of mind in appraising the environmental sustainability of the project.
 - (iii) Whether a case is made out for interference by this Tribunal with the impugned order.

Observations and Analysis

25. Before we proceed to consider the above issues, we may make certain observations about the approach to be adopted in dealing with such matter. A holistic approach is required in such matters instead of taking the impact of the project in isolation on standalone basis. The Tribunal has to keep in mind crucial features of the project having bearing on the environment like size, height, location, background data of environment including air, water and noise and likely impact of the project on the environment, including the environmentally pristine area – the Northern Ridge which is in the nearby vicinity.

The project is said to be the tallest high rise building in the city comprising S+G+37 floors containing 410 dwelling units in the vicinity of educational institutions, hospital, Metro Station and the Northern Ridge. We have to accordingly consider the impact on the recipient environment, including air quality, noise, traffic congestion, water requirement, waste management, fire safety, earthquake and liquefaction potential and compliance with the Master Plan.

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26. As already noted above, the appellant has relied upon office memorandum dated 10.11.2015 issued by the MoEF&CC laying down *Guidelines for Appraisal of Building and Construction Sector Projects* mentioning following thrust areas of environmental sustainability:

- a. Brief description of the project in terms of location and surroundings.
- b. Environmental impacts on project land and its surrounding developments and vice-versa.
- c. Water balance chart with a view to promote waste water treatment, recycle, reuse and water conservation.
- d. Waste water treatment and its details including target standards.
- e. Alternations in the natural slope and drainage pattern and their environmental impacts on the surroundings.
- f. Ground water potential of the site and likely impacts of the project.
- g. Solid waste management during construction and post construction phases.
- h. **Air Quality and Noise Levels; likely impacts of the project during construction and operational phases.**
- i. Energy requirements with a view to minimize power consumption and promote use of renewal energy sources.
- j. **Traffic Circulation System and connectivity with a view to ensure adequate parking, conflict free movements, Energy efficient public transport.**
- k. Green belt/ green cover and the landscape plan.
- l. Disaster/ risk assessment and management plan.
- m. Socio Economic Impacts and operational phases.

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- n. EMP during construction and operational phases.
- o. **Any other related parameter of the project which may have any other specific impact on environmental sustainability and ecology.**

27. As laid down in *Hanuman Laxman Aroskar v. Union of India* (supra), all material information, must be furnished in Form - I to enable evaluation of all possible impacts of the project. As required by the guidelines issued by the MoEF&CC, information must be given and evaluated particularly with regard to issues covered under 'h', 'j' and 'o' above.

The notification itself mentions that concealment or misleading renders an application liable to rejection. SEIAA must factor in specific features of the area encompassing all environmental concerns including air quality, water quality, noise quality, traffic congestion, flora and fauna. Recommendation of SEAC must be based on reasons on every relevant aspect. Such reasons are the live link between its process and outcome of adjudicative functions. The whole exercise must lead to environmental sustainability which is the basis of environmental rule of law.

Issue wise consideration

28. With above background, we proceed to deal with issues which have arisen for consideration.
29. **Re: Issue No. (i) - Whether there was due disclosure of information by the project proponent**
- According to the appellant, Forms- I and IA do not mention closeness of the project to Delhi University and Viceroy Building (heritage site).

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Najafgarh drain nearby is highly polluted. No information has been given about the natural slope and drainage. No mention has been made that the area is semi critical as per Dynamic Ground Water Study of 2017 requiring clearance from Central Ground Water Authority. The project proponent has mentioned that there is no impact on ground water. What is mentioned is that source of water is municipal supply. There is no evaluation of the additive effect on air quality on account of such high rise building in the area which is already far beyond its carrying capacity.

As against the above, stand of project proponent in its counter affidavit is that there was no need to mention that the project was close to Super Specialty Hospital and Delhi University which fact is well known. There is also no suppression in relation to traffic analysis. There is no requirement of underground water. Clearance has been taken from DJB. All relevant facts have been duly disclosed.

In the written submissions filed on 12.02.2020 by the project proponent, it is mentioned that all necessary approvals have been taken. The project proponent has paid Rs.218.20 crore for the land for a lease for 90 years. Earlier EC dated 13.08.2012 was never challenged. Present challenge is malafide as the project is adjacent to bungalow of the Vice Chancellor. Fresh EC was sought in the year 2018 on account of amendment to building by laws in 2016 which required seeking revised lay out plan. Revised lay out plan was granted on 17.11.2017. The project is B2 category project and for such project stages of screening, scoping, public consultation etc. are

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not required. There is no restriction on construction in silence zone. Noise source is only from generator which will be highest quality having no significant impact. Information about air monitoring points was given to SEAC. Baseline data of noise generation exceeds the limits on account of vehicular movement, the project proponent will use wind and noise barrier during and after construction and a thick brick wall with plantation after construction. Air quality data submitted by the project proponent to the SEAC and online air quality data of the nearest station from the project shows that air quality is higher than the standards. Air dispersion modelling results show that increase will be marginal for which mitigation measures will be adopted during construction and operation. Traffic management plan has been submitted to SEAC on 09.03.2018. Traffic volume is 423 pcu at Cavalry lane, 1310 pcu at Chhatra Marg. Traffic growth is 10% in the year 2020, 20% in 2025 and 30% in 2030. Documents of the appellant are authored by vested interests within the University. Parking norms have been followed. Water requirement will be met by the DJB. Revised sewerage scheme has been approved. There are facilities for waste management. Liquefaction potential has been analyzed. Soil evaluation survey has been done. There are other high rise buildings in the vicinity, fire safety standards have been looked into. There is no impact on the Northern Ridge. There is no violation of MPD. As a result of the project, water table will increase on account of rain water harvesting pits. Tree cutting permission has been validly granted.

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30. We have taken into account rival stands on the subject of disclosure. The stand of the project proponent itself shows that most of the information given by it was in response to questions by the SEAC without the same being originally given in the Form I and IA. In Form I and IA, there is no mention of data on air quality or impacts of the project on air quality. In Form I, it is mentioned that air quality monitoring will be carried out during EIA/EMP studies (which would have happened if the project was treated as Category A as per the Notification, 2006. However, since the project was treated as Category B2 on account of notification dated 22.12.2014, no such study was conducted). It is further submitted that contribution of vehicular emission will be marginal and within the ambient air quality standards. Green belt will be developed which will act as a barrier. Nothing is mentioned about the impact on air quality during construction and afterwards. Parking has been proposed for 840 vehicles. It is further stated that there will be no significant impact of noise due to provision of wide roads.

On the above material, it is difficult to conclude that requisite disclosure was made by the project proponent. Since air quality is one of the most significant environmental aspect, even if we do not consider other aspects, it can certainly be said that no information was furnished on the subject of air quality in Form I and IA and information furnished later was highly inadequate and not supportive of sustenance of high rise project of such magnitude. A reference to the minutes of the SEAC dated 24.02.2018 shows that the project proponent was required to furnish information with regard to

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ambient air monitoring points, traffic management, revised EMP, water mass balance chart etc. There is no consideration of initial non-disclosure in the impugned order of SEIAA or by SEAC which by itself may vitiate the EC.

31. **Re: Issue No. (ii) – Whether SEAC and SEIAA applied before granting EC**

We may now consider whether there is due application of mind by the SEAC and SEIAA in granting EC. The stand of the appellant is that SEIAA has not applied its mind in granting EC. There is no consideration of the ambient air quality status of the area for sustenance of the project in question. The sample test report of air quality submitted by the project proponent itself and placed for consideration before SEAC show that air quality is far beyond permissible limits both in terms of PM_{2.5} and PM₁₀. Against prescribed National Ambient Air Quality Standards of 60 µg/m³ and 100 µg/m³ per day for PM_{2.5} and PM₁₀ respectively, the data shows PM_{2.5} in the range of 134.62 to 240.6 and PM₁₀ to be in the range of 242.72 to 436.8. Similar is the position with regard to NO₂.

A perusal of the impugned order shows that decision to grant EC is based on recommendation of SEAC in terms of minutes of meeting dated 24.02.2018 and 13.03.2018. The said minutes do not contain any discussion on the subject beyond mentioning that recommendation for granting EC was based on the information furnished, documents shown and submitted, presentation made by the project proponent and appraisal done by Committee. Documents furnished have already been referred to above.

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32. Minutes of meeting of SEAC dated 24.02.2018 and 17.03.2018 are as follows:-

24.02.2018

“Based on the information furnished, documents shown & submitted, presentation made by the project proponent SEAC sought the following information:

1. *Revised water mass balance chart with minimum excess waste water discharge in rainy and non-rainy season and with action plan to re-use/ recycle the excess treated water.*
2. *Schematic drawing of proposed STP of enhanced capacity.*
3. *Plan for handling the excavated earth is required to be submitted along with revised EMP (Environment Management Plan) for dust mitigation measures as per MoEF Notification No. GSR 94 (E) dated 25.01.2018 incorporating the provisions of spraying nozzles for dust suppression and frequency of spraying.*
4. *Details/location of ambient air monitoring points in basements including the ventilation cycle of fresh and recycle air.*
5. *Point wise comments on the issues raised vide circular no. J-11013/71/2016-IA.I(M) dated 25 October, 2017 are required to be furnished.*
6. *Traffic management plan taking into consideration the latest traffic scenario.*
7. *Landscape plan with demarcation for total green area and soft green area.*
8. *Proposed plan for implementation of renewable energy.”*

17.03.2018

“The project proponent has applied for amendment in EC under the head of fresh case on OSMEC portal stating that wrt EC letter no DPCC/SEAC/50/SEIAA/I/2012 dated 13th August, 2012 construction has not been started. Therefore present proposal is considered as a fresh case and Office Memorandum No. J-11011/618/2010-IA-II(I) dated 30.05.2012 for expansion projects is not applicable. Earlier EC issued vide letter no. DPCC/SEAC/50/SEIAA/I/2012 dated 13th August, 2012 be withdrawn and treated as null and void. With respect to the present application, based on the information furnished,

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documents shown & submitted, presentation made by the project proponent and appraisal done by committee. SEAC recommended the case to SEIAA for grant of Environmental clearance imposing the following specific conditions:

1. Chhatra marg should be used for pedestrian and non-motorized vehicle or only in case of emergency with restricted motorized vehicles.
2. Treated water of DJB STP should be used for construction purposes up to the maximum extent possible.
3. Packages/mobile STP shall be provided for labour camp during construction phase.
4. Ground water should be extracted only after the permission from DJB.
5. Boring for Rain Water Harvesting system should not be permitted/done before completion of structure work. All recharge should be limited to shallow aquifer.
6. STP should be adequate to treat the waste water so that BOD level should not exceed 10mg/l in treated water.
7. Flow Meters should be installed to monitor consumption of fresh water as well as treated water and log book for these flow meters be maintained in a regular manner. Flow meters shall be installed at Inlet of STP, outlet of STP, inlet of flushing tanks, inlet of cooling water tanks and reuse line for horticulture purposes.
8. The project proponent, before starting the construction, will reconfirm the nonexistence of any water body in and around (within 500m) the project site. It will be ensured that water body/bodies identified as per guidelines MPD 2012) in and around the project suite shall not be affected due to proposed development work.
9. Minimum 1 tree for every 80 Sq. Mt of plot area should be planted within the project site in accordance with the landscape plan submitted.
10. Solar Photovoltaic (SPV) system should be installed to meet electricity generation equivalent to 1% of demand load or as per the state level/local building bye-laws, whichever is higher. Solar water heating shall be provided to meet its hot water demand as far as possible.
11. Only LEDs should be used.

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12. Green building norms should be followed with a minimum 3 star GRIHA rating and Gold rating should be followed up.
13. Total capacity of DG sets should not exceed 50% of the total load.
14. Construction & Demolition waste should be disposed of at authorized C & D waste processing unit.
15. Wind-breaker of appropriate height i.e. 1/3rd of the building height and maximum upto 10 meters shall be provided all around the project site before the start of construction.
16. During the Construction Phase for control of dust pollution all precautionary measure should be ensured in compliance of Hon'ble National Green Tribunal order dated 4.12.2014 & 10.04.2015 in O.A. No. 21 of 2014 and O.A. No. 95 of 2014 in the matter of Vardhaman Kaushik vs. Union of India & others and Sanjay Kulshreshtha Vs Union of India 7Ors. And as per MoEF&CC, GOI Notification no. G.S.R.94(E) dated 25.01.2018 regarding mandatory implementation of dust mitigation measures for construction and demolition activities.
17. Project proponent shall be responsible for establishment, operation and maintenance of all common facilities and also for compliance of EC conditions during operation stage.
18. In view of MoEF&CC Office Memorandum No. 21-270/2008-IA.III dated 19.06.2013 read with MoEF&CC Office Memorandum No. 22-154/2015-IA.III dated 10.11.2015, this environmental clearance is granted focusing only on the environment concerns. The project will be regulated by the concerned local Civic Authorities under the provisions of the relevant provisions of the extant MPD-2021, Building Control Regulations and Safety Regulations.
19. The Project Proponent shall obtain water assurance form NDMC/Delhi Jal Board/ authorized source during construction/operation phase for the proposed development work. It must be obtained before starting the construction.
20. The Environmental Clearance is subject to the condition that concerned local civic agencies will give the permission for use/occupation of the building only after the written assurance of DJB/New Delhi Municipal Council/other

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such local civic authority (as the case may be) regarding supply of adequate water for residents/occupiers.

21. Grant of environmental clearance does not necessarily implies that water/power supply shall be granted to the project and that their proposal for water/power supply shall be considered by the respective authorities on their merits and decisions taking.
22. The investment made in the project, if any, based on environmental clearance so granted, in anticipation of the clearance from water/power supply angle shall be entirely at the cost and risk of the project proponent and SEAC/SEIAA, Delhi shall not be responsible in this regard in any manner.
23. Green area should not be less than 25% of the plot area out of which minimum 15% should be of soft green area, so that there should be sufficient recharging of ground water. Further along boundary wall, minimum of soft green space of 2m width be kept for better tree growth & ground water recharge, based on area of 6'x6'/tree being a norm."
33. Minutes of 57th meeting of SEIAA dated 22.03.2018 are as follows:-

"After due deliberations, in its first sitting of 96th meeting held on 13.03.2018 the SEAC observed that the project proponent has applied for amendment in EC under the head of fresh case on OSMEC portal stating that w.r.t. EC letter no DPCC/SEAC/50/SEIAA/1/2012 dated 13th August, 2012 construction has not been started. Therefore, present proposal is considered as a fresh case and Office memorandum No.J-11011/618/2010-IA-II(I) dated 30.05.2012 for expansion project is not applicable. Earlier EC issued vide letter no DPCC/SEAC/50/SEIAA/2012 dated 13th August, 2012 be withdrawn and treated as null and void. With respect to the present application, based on the information furnished, documents shown & submitted, presentation made by the project proponent and appraisal done by committee, SEAC recommended the case to SEIAA for grant of Environmental clearance imposing the specific conditions.

The SEIAA in its 57th meeting held on 22.03.2018 approved the recommendations of SEAC that earlier EC issued vide letter no DPCC/SEAC/50SEIAA.1/2012 DATED 13TH August, 2012 be withdrawn and treated as null and void, and granted fresh Environmental Clearance to the project with the following additional specific conditions.

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1. Adequate ventilation should be provided in the basements and during the operation phase the concentration levels of Carbon dioxide, Carbon Monoxide should be monitored periodically and also be reported in periodical compliance reports to be submitted. NO_x, SO_x and PM are also be maintained in basement as per EPA norms.
 2. About 202 KLD of fresh water for operational phase will be met by DJB, hence this project will increase the demand of fresh water from DJB by 202 KLD.
 3. Sign board be placed at project site indicating the Khasra No. of the land as per revenue record.”
34. As already mentioned, the application did not give any data of ambient air quality. Vide subsequent letter dated 09.03.2018, in response to minutes of 95th meeting of SEAC dated 24.02.2018, the project proponent gave point wise reply. Annexure IV thereto is pointwise response to MoEF&CC circular dated 25.10.2017. Appendix I thereto is test report dated 27.01.2018 for ambient air quality analysis as follows:

| S. No. | Date | Particulate matter (PM _{2.5} ; ug/m ³ GRC/LAB/STP/AIR/03, Gravimetric Method | Particulate matter (PM ₁₀ ; ug/m ³ IS 5182 (Part 23): 2006 | Sulphur Dioxide (PM ₁₀ ; ug/m ³ IS 5182 (Part 23): 2001 Reaff.2006 | Nitrogen Dioxide (PM ₁₀ ; ug/m ³ IS 5182 (Part 23): 2006 | Carbon Monoxide (CO); ug/m ³ IS 5182 (Part 10): 1999 Reaff.2003 |
|--------|------------|--|--|--|--|--|
| 1. | 03.01.2018 | 240.6 | 412.3 | 9.3 | 71.6 | 1580 |
| 2. | 05.01.2018 | 237.4 | 396.2 | 17.7 | 74.1 | 2110 |
| 3. | 08.01.2018 | 195.7 | 368.4 | 20.4 | 82.3 | 2060 |
| 4. | 11.01.2018 | 146.2 | 324.5 | 18.9 | 63.4 | 1510 |
| 5. | 14.01.2018 | 227.9 | 436.8 | 29.7 | 84.5 | 2470 |

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| | | | | | | |
|----|------------|-------|-------|------|------|------|
| 6. | 17.01.2018 | 210.5 | 419.4 | 11.4 | 89.5 | 2780 |
| 7. | 20.01.2018 | 183.4 | 318.9 | 18.3 | 84.0 | 1050 |
| 8. | 24.01.2018 | 134.6 | 242.7 | 15.9 | 77.6 | 1010 |

Ambient Noise level as per test report dated 12.01.2018 annexed thereto which is as follows:-

| S. No. | Location | Zone | Limit for As per EP Act, 1986; Leq, DB (A) | | Observed value Ledq, dB (A) | |
|--------|---------------|-------------------------|--|------------|-----------------------------|------------|
| | | | Day Time | Night Time | Day Time | Night Time |
| 1. | Project Site | Residential area | 55 | 45 | 63.4 | 49.8 |
| | * Day Time | 6.00 a.m. to 10.00 p.m. | | | | |
| | ** Night Time | 10.00 p.m. to 6.00 a.m. | | | | |

35. Another document which is part of letter is titled Traffic Analysis for proposed group housing at DU Metro Station (page 663 of the paper book) is as follows:-

EXISTING TRAFFIC CONDITIONS

CAVALRY LANE:

According to recent traffic survey conducted in February 2018, traffic volume on Cavalry Lane is 423 pcu during AM peak hour. The ADT is recorded to be 3284 pcu comprising of 1087 two wheeler, 707 autos, 926 cars and 2 buses on Cavalry Lane. Over a day, 7 good vehicles, 198 cycles, 45 cycle rickshaws and 926 E-Rickshaws have been noted. In the afternoon peak hour (14:00-15:00 hrs, the recorded traffic volume is 208 pcu. The annexure-1 give the details of pedestrian and vehicular traffic volumes in tabular and graphic form for easy comprehension. It will be noted that the surrounding roads have adequate capacity to absorb traffic generated by the proposed development. Further the placement of access position on Cavalry Lane is not likely to cause any traffic concerns in the context.

CHHATRA MARG:

Similarly traffic survey conducted in February 2018, traffic volume on Chhatra marg is 1310 pcu during AM peak hour. The ADT is recorded to be 14801 pcu comprising of 4999 two wheeler, 1668 autos, 4092 cars and 19 buses.

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Over a day, 44 good vehicles, 412 cycles, 1217 cycle rickshaws and 4376 E-Rickshaws have been noted. In the afternoon peak hour (14:00-15:00hrs), the rerecorded traffic volume is 1167 pcu. The annexure 2 give the details of pedestrian and vehicular traffic volumes in tabular and graphic form for easy comprehension.

ESTIMATE OF GENERATED TRAFFIC

It is estimated that the housing scheme will generate some 320 pcu of vehicular traffic under a peak period of four to five hour duration. Critical peak hour traffic volume is estimated at 192 pcu egress and 25 pcu/h ingress traffic volume during AM period. The flow patter will reverse during PM peak period though the duration of PM peak period is generally longer than the AM peak period. It must be stated that considerable proportion of person trips will be made by Metro. Reliance on other modes of transport like cycle richshaw is not expected to be high as the site offers by virtue of its location, excellent conditions for walking and nearness to the metro station. Cavalry Lane accordingly is envisaged to provide the access to motorized vehicles. On adding incremental traffic to the existing traffic on Cavalry Lane, the aggregate traffic works out to be 640 pcu per hour. The existing v/c ratio considering local two lane two-way carriageway configuration works out to be 0.56, and the emerging v/c ratio with project estimated to be 0.857 as per IRC 106. This v/c has built in facility of right turn traffic, parked vehicles and frontage access from the road under consideration. With v/c ratio of 0.85, congested conditions are not expected on Cavalry Lane. Further there is likely to be diversion from car to public transport especially to Metro for essential trips and this is likely to reduce the generated vehicular traffic volume from the proposed development. Walking to Metro Station for travel purposes is likely to find favour with the residential population.”

36. As already noted, SEIAA has based its decision dated 22.03.2018 on the recommendation of SEAC, while SEAC has based its decision on Form – I, Form-I A followed by letter and presentation by the project proponent. There is hardly any tangible and substantive discussion either by SEAC or by SEIAA analyzing various environmental aspects and impacts of the proposed project. Conditions have been laid down which are very generic without any analysis of issues which are patent. Thus, the whole exercise by SEAC or SEIAA is based on non-application of mind which vitiates the EC. Mere imposition of general

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conditions that Air (Prevention and Control) of Pollution Act, 1981 (Air Act) and Water (Prevention and Control) of Pollution Act, 1974 (Water Act) norms will be followed is of no consequence when air quality norms are already exceeded and there is not carrying capacity assessment to sustain the project in question.

37. It is undisputed that the land on which the project is proposed belongs to the Ministry of Defence. The same was acquired for Metro Rail Project in 2001. The land use was characterized as public and semi-public as per MPD 2021 which was changed at the instance of DMRC in the year 2008 for group housing project. Proposal for grant of EC was moved initially on 21.08.2009 which was granted on 13.08.2012 for 324 dwelling units with total built up of area 10,265.90 sq.m. The appellant University raised objections on 08.02.2012 which are said to have been considered by the sub-Committee constituted by SEAC. Amendment in the project was sought on 12.02.2018 for covering more area. Prior to 22.12.2014, the requirements of EIA Notification dated 14.09.2006 were as laid down in a note against Entry VIII of the Schedule as follows:-

“General Condition (GC):

Any project or activity specified in Category ‘B’ will be treated as Category A, if located in whole or in part within 10 km from the boundary of: (i) Protected Areas notified under the Wild Life (Protection) Act, 1972, (ii) Critically Polluted areas as identified by the Central Pollution Control Board from time to time, (iii) Eco-sensitive areas as notified under Section 3 of the Environment (Protection) Act, 1986, such as, Mahabaleshwar Panchgani, Matheran, Pachmarhi, Dahanu, Doon Valley, and (iv) inter-State boundaries and international boundaries:

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Provided that the requirement regarding distance of 10 km of the inter-State boundaries can be reduced or completely done away with by an agreement between the respective States or U.Ts sharing the common boundary in case the activity does not fall within 10 kilometres of the areas mentioned at item (i), (ii) and (iii) above.”

38. The said note was deleted by the notification dated 22.12.2014. The condition shows that the project located in 10 kms. of critically polluted areas or of interstate boundary was treated as separate from any other projects. The location of the present project is within 10 kms. of interstate boundary and also within such distance from critically polluted areas. Thus, on the date earlier EC was earlier granted i.e. 13.08.2012, the project was wrongly treated as Category B. To avoid this legal hurdle, the application appears to have been treated as for grant of a fresh EC though the application was for amendment of the earlier EC, which amendment was not legally permissible without following procedure for Category A project entailing detailed EIA study and accordingly preparation of EMP.

Even for evaluation as Category BI project, appraisal was required to be based on carrying capacity of the area in terms of air quality, noise level and traffic congestion apart from other important environmental considerations. In absence thereof, it is not possible to hold that there is application of mind by SEIAA as claimed by the project proponent.

39. We find merit in the contention on behalf of the appellant that there was hardly any application of mind by SEIAA or SEAC to the available data and to the impact of the project on environment, before granting EC. To give effect to Sustainable Development and

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Precautionary principles, EC cannot be granted without such assessment and evaluation, which is also known as 'Carrying Capacity Assessment'. Such assessment becomes all the more necessary when the available data shows that environmental norms are in excess of prescribed parameters. We may consider this aspect in the light of earlier orders of this Tribunal.

Carrying Capacity Assessment for the Project

40. The data furnished by the appellant has been quoted above showing that norms of air quality as well as noise levels are already beyond the prescribed standards. There is, thus, no carrying capacity of the area to sustain any additive load in terms of air or noise levels which undisputedly will happen, even according to the project proponent.

41. This Tribunal has earlier considered the issue of carrying capacity on certain occasions. Reference may be made to the order dated 26.10.2018, in O.A. No. 568/2016, *Ajay Khara Vs. Container Corporation of India Limited & Ors.* as follows:-

*"15. Delhi is over polluted and figures quite high in the ranking of most polluted cities. **There is no study about the capacity of the city in respect of the extent of population which can be accommodated and number of vehicles which can be handled by the roads of Delhi. The Master Plan for Delhi 2021 also does not assess the urban/physical carrying capacity of the NCT of Delhi despite noting a reduction in the carrying capacity of amenities such as drainage.** However, no specific emphasis is laid on determination of carrying capacity of the city on the basis of factors such as availability of land, air and water resources for the increasing population in the light of principles of sustainable development and Intergeneration equity.*

16. Conscious of the threat posed to limited natural resources due to their overuse, this Tribunal in Metro Transit Pvt. Ltd Vs.

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South Delhi Municipal Corporation & Ors.⁴ directed the Ministry of Transport to take initiative to assess the number of vehicles to be permitted proportionate to the capacity of the roads in the city in the larger interest of environment. This Tribunal has also directed in *SPOKE Vs. M/s. Kasauli Glaxie Resorts and other connected matters*⁵ to frame guidelines with respect to carrying capacity assessment for similarly placed hill stations as Kasauli and Eco-Sensitive Zone (ESZ) notified by MoEF&CC to check hazards of unregulated development threatening the fragile ecology. In *D.V. Girish v. Union of India & Ors.*⁶ this Tribunal has directed the Ministry of Urban Development and MOEF& CC to conduct detailed carrying capacity study to assess the impact of factors such as construction of resorts, new civil structures, availability of water resources, power lines, soil erosion, extraction of ground water, waste generation and handling, road traffic and pollution and evolve a management plan for preservation of Chikkmangaluru district. Further, in *Social Action for Forest and Environment (SAFE) & Ors. v. Union of India and Ors.*⁷ it was observed that the relevance of the concept of carrying capacity to the concept of sustainability adds to its value for organizing the management framework. **In the light of the current scenario, a similar assessment is necessitated in NCT Delhi.**

17. As a yardstick of sustainability, urban carrying capacity is an important conceptual underpinning that must guide a welfare state in promoting sustainable urban development. The concept of "carrying capacity" addresses the question as to how many people can be permitted into any area without the risk of degrading the environment of the area. A dynamic city policy based on carrying capacity assessment is essential to ameliorate the conditions for urban development and residents living quality. Urban carrying capacity is needed to be developed to balance the demands on the resources on the one hand and the capacity of such resources consistent with the need for environment protection. This is the need for sustainable development. Severely straining and degrading the available natural resources of a particular area without regard to capacity assessment is causing irreversible damage to the ecology in terms of pollution of air, water and earth. What would happen to the traffic flow if all roads become parking? What happens to the road travelers, if there is no adequate oxygen in the air on account of excessive vehicles and congestion? How would unlimited housing be provided to people if the land resources are exhausted at particular place? How will water and waste disposal

⁴ Order dated 23.10.2018 in OA No. 773/2018

⁵ Order dated 05.10.2018 in O.A. No. 218/2017

⁶ Order dated 30.07.2018 in O.A. No. 462/2018

⁷ Order dated 10.12.2015 in O.A.No. 87/2015

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needs be met, if there is unplanned population density in a particular city? These questions require serious consideration. "Urban disease" frequently besetting the cities such as traffic congestion, housing shortage, lack of amenity, pose actual challenges and impediments to sustainable development. While emergency measures such as the odd-even scheme, limiting the flow of tourist vehicles and restraining the timing of fire crackers may help momentarily such as is contemplated under the 'Graded Response Action Plan', long term assessment of physical and environmental carrying capacity and devising measures to restrict overuse on reaching optimum capacity is inevitable to ensure sustainable development. Without such assessment and action, the very survival of people is threatened what to talk of working towards Sustainable Development Goals, 2030 to tackle climate change may remain only a dream. Sustainable development is essential policy and strategy for continued economic and social development without detriment to the environment and natural resources on the quality of which continued activity and further development depend⁸. Natural resources have got to be tapped for the purposes of social development but one cannot forget at the same time that tapping of resources have to be done with realistic approach to capacity of a city or area so that environment may not be affected in any serious way; so that there may not be depletion of water resources. Long-term planning must be undertaken consistent with capacity assessment. It has always to be remembered that the air and water are not without limitation⁹.

18. *Accordingly, we consider it necessary to direct assessment of carrying capacity for the NCT Delhi as well as other major cities particularly 102 "non-attainment cities" within reasonable time preferably in one year. Such study can be in phases depending on priority areas having pollution hot spots. Such assessment must specifically study capacity in terms of number of vehicles, extent of population, extent of different nature of activities – institutional, industrial, commercial etc.*

19. *The Ministry of Urban Development in coordination with the Central Pollution Control Board, Ministry of Transport and other concerned Ministries, the Authorities such as Planning Commission as well the States may carry out such study with the assistance of experts in the field. Methodology to do so may be worked out within two months.*

⁸ (2002) 10 SCC 606 T.N. Godavarman Thirumulpad Vs. Union of India, , dated 30.10.2002

⁹ 1986 Supp (1) SCC 517 Rural Litigation & Entitlement Kendra, Dehradun Vs. Stat of UP (Doon Valley Case), AIR 1987 SC 359, dated 18.12.1986

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20. As a result of such study, further policy decisions may be taken by concerned Authorities for comprehensive action for checking air pollution in the interest of public health. This may also result in regulation of logistics and infrastructure. The CPCB may act as nodal agency."

42. In the same matter i.e. Ajay Khara Vs. Container Corporation of India Limited & Ors., supra, further order dated 08.03.2019 is as follows:-

"4. As per report of the WHO, Delhi is one of the 10 most polluted cities in the world. This called for a study about capacity of the city in respect of extent of population and number of vehicles to be permitted. Urban carrying capacity assessment was an essential part of urban planning for giving effect to the concept of sustainable development. It was observed:-

"Severely straining and degrading the available natural resources of a particular area without regard to capacity assessment is causing irreversible damage to the ecology in terms of pollution of air, water and earth. What would happen to the traffic flow if all roads become parking? What happens to the road travelers, if there is no adequate oxygen in the air on account of excessive vehicles and congestion? How would unlimited housing be provided to people if the land resources are exhausted at particular place? How will water and waste disposal needs be met, if there is unplanned population density in a particular city? These questions require serious consideration. "Urban disease" frequently besetting the cities such as traffic congestion, housing shortage, lack of amenity, pose actual challenges and impediments to sustainable development. While emergency measures such as the odd-even scheme, limiting the flow of tourist vehicles and restraining the timing of fire crackers may help momentarily such as is contemplated under the 'Graded Response Action Plan', long term assessment of physical and environmental carrying capacity and devising measures to restrict overuse on reaching optimum capacity is inevitable to ensure sustainable development. Without such assessment and action, the very survival of people is threatened what to talk of working towards Sustainable Development Goals, 2030 to tackle climate change may remain only a dream. Sustainable development is essential policy and strategy for continued economic and social development without detriment to the environment and natural resources on the quality of which continued activity and further

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development depend. Natural resources have got to be tapped for the purposes of social development but one cannot forget at the same time that tapping of resources have to be done with realistic approach to capacity of a city or area so that environment may not be affected in any serious way; so that there may not be depletion of water resources. Long-term planning must be undertaken consistent with capacity assessment. It has always to be remembered that the air and water are not without limitation."

8. As regards the direction to prepare carrying capacity assessment report, we find from the interim report submitted by the CPCB that the Ministry of Housing and Urban Affairs is in the process of developing a methodology for the study. The study is to be carried out through Urban Mass Transit Company (UMTC) as a pilot study. Since the order of the Tribunal is more than four months old, the study had to be done in a time bound manner. The same cannot be delayed beyond a point in view of urgency of the situation. **Tackling air pollution cannot remain pending.** Let Central Pollution Control Board furnish such study report, as far as possible, within one month from today."

43. Again in Anil Tharthare v. Secretary, Env't. Dept. Govt. of Maharashtra, 2019 SCC Online NGT 876, it was observed:-

"25. Carrying capacity is integral to the principles of Sustainable Development and Polluter Pays principle. As a yardstick of sustainability, urban carrying capacity is an important conceptual underpinning that must guide a welfare state in promoting sustainable urban development. "Urban disease" frequently besetting the cities such as traffic congestion, housing shortage, lack of amenity, pose actual challenges and impediments to sustainable development. Severely straining and degrading the available natural resources of a particular area without regard to capacity assessment is causing irreversible damage to the ecology in terms of pollution of air, water and earth. In light of serious threat, this Tribunal in Original Application No. 568 of

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2016, *Ajay Khara v. Container Corporation of India Limited* vide order dated 26.10.2018, posed the following questions:

- (a) What would happen to the traffic flow if all roads become parking?
- (b) What happens to the road travelers, if there is no adequate oxygen in the air on account of excessive vehicles and congestion?
- (c) How would unlimited housing be provided to people if the land resources are exhausted at particular place?
- (d) How will waste water and solid waste disposal needs be met, if there is unplanned population density in a particular city? These questions require serious consideration.

26. Natural resources have got to be tapped for the purposes of social development but one cannot forget at the same time that tapping of resources have to be done with realistic approach to capacity of a city or area so that environment may not be affected in any serious way. It has always to be remembered that both the air and water as resource are not without limitation.

44. In appeal against the above order in Hon'ble Supreme Court in *Keystone Realtors Pvt. Ltd. v. Anil v. Tharthare*, 2019 SCC Online SC 1543, it was observed:-

"21.The procedure set out under paragraph 7(ii) of the EIA Notification exists to ensure that where a project is expanded in size, **the environmental impact on the surrounding area is evaluated holistically considering all the relevant factors including air and water availability and pollution, management of solid and wet waste and the urban carrying capacity of the area.** This was not done in the case of the appellant's project. It was not open to the third respondent to grant an 'amendment' to the EC without following the procedure set out in paragraph 7(ii) of the EIA Notification."

45. This Tribunal got carrying capacity study conducted in respect of Manali and Mcleodganj in Himachal Pradesh by a Committee inter-

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alia representing G.B. Pant Institute, Almora; Chief Town Planner, Shimla/senior Architect (Planner); A senior Scientist from MOEF&CC; A senior Scientist from the Indian Council of Forestry Research and Education, Dehradun; Senior Scientist from Wadia Institute of Himalayan Geology, Dehradun; Scientist/ Senior official from the Central Ground Water Board, New Delhi; Scientist/ Senior official from the Central Pollution Control Board, New Delhi; Representative of National Disaster Management Authority, Govt. of India and Representative of School of Planning and Architecture, New Delhi. Based on such study, the Tribunal directed restriction on constructions.¹⁰ The Tribunal observed:-

“13. With regard to Manali, the report makes following recommendations on the subject whether any construction can be allowed at Manali:

“Whether construction in Manali be permitted or whether any restrictions need to be imposed, if so, the nature of restrictions which are to be laid down.

As per the findings of this study, Manali MC has no capacity left to accommodate or sustain additional population/tourist. Allowing any construction would mean Govt. is officially encouraging and making provisions for more population/tourists.

In view of above it is recommended to enforce a complete ban on construction activities in Manali MC except the construction of residential houses for their own uses/purpose and government buildings. The construction of other types should only be permitted unless and until adequate provisions for solid waste management and water supply are put in place.”

15. With regard to McLeodganj, a separate report has been submitted. After examining various parameters, the Expert Committee recommended as follows:

“In view of above it is recommended to enforce a complete ban on construction activities in McLeodganj except the construction of residential houses for their own uses/pur1

¹⁰ Order dated 29.07.2019 in O.A. No. 635/2017, Ramesh Chand v. State of H.P.

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and government buildings. The construction of other types should only be perm] unless and until adequate provisions for solid waste management is put in place.”

20. The three templates of ‘carrying capacity assessments’ - two in the present case i.e. Manali and Mcleodganj and one in case of Kasauli which was dealt with by order of this Tribunal vide order dated 05.10.2018 in Original Application No. 218/2017, Society for Preservation of Kasauli and its Environs (SPOKE) v. M/s Kasauli Glaxie Resorts, may be taken into account by the MoEF&CC and CPCB while carrying out further carrying capacity assessments as required in terms of orders of this Tribunal”.

46. In view of above, it is difficult to uphold sustainability of the project in terms of carrying capacity and permissibility of grant of EC without a proper assessment which has not been done.
47. Sustainability of the project has been questioned *inter-alia* having regard to deteriorated air and noise quality, underground water level, traffic congestion, location close to Northern Ridge, height of the building. In Form-I, against the heading Environmental Sensitivity, distance from Yamuna is shown to 1.5 km., from Northern Ridge Reserve Forest (RF) 0.5 km., interstate boundary is mentioned as 6.5 km., densely polluted area is 1.5 km., sensitive man made uses are mentioned as 0.5 to 2.5 km. Area already subject to pollution is mentioned to be none. It is mentioned that site is in Seismic Zone IV. In Form IA, against air environment, it is mentioned contribution of vehicle emission will be marginal. It is further stated that there will be no significant impact of noise.
48. It has been pointed out by the appellant that University and 100 m. from educational institutions having more than 1000 students is ‘silence zone’ as per Notification dated 03.04.2008. These factors

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make the project to be environmentally vulnerable, sensitive and critical which aspects have not been duly evaluated. There is no serious consideration of these vital environmental issues.

Air Quality, Noise Level and Traffic Congestion

49. As already mentioned, the data furnished by the project proponent itself shows that air quality in the area has no carrying capacity to permit any additive load in terms ambient air. In absence thereof, permitting a project adding to load of pollution will be against the Sustainable Development and Precautionary principles which are tenets of *right to life*. Similar is the position with regard to noise levels and traffic congestion. On this aspect there is no consideration whatsoever by SEIAA/SEAC. EC has been granted mechanically, overlooking this crucial aspect. There is no consideration of estimation of total existing PM load, estimation of assimilative capacity with respect of PM and estimation of supportive capacity with respect to PM by SEAC/SEIAA.

Additional load of pollution on account of the project to already deteriorated air quality, noise level and traffic congestion

50. Coming to the additional load of pollution on account of added traffic on account of the project, traffic report submitted by the project proponent in the year 2011 mentioned the estimated traffic data to be 320 Passenger Car Equivalent (PCU) during peak hour. Report of Prof. Geetam Tiwari, IIT Delhi relied upon by the appellant is that since the project is for high income group, there will be about 900 motorized trips. The project may be non-complaint of Transit Oriented Development Guidelines (TOD) prepared by DDA. Traffic

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report 2011 filed by the project proponent mentions volume to the capacity of 0.7 but the same will exceed 1. Since motorized and pedestrian traffic and road surrounding the project are running to the capacity, any addition on account of the project will be unsustainable.

Second report relied upon by the project proponent of the year 2018 mention width of Cavalry lane as 24 m. According to the appellant, the width of Cavalry lane is 8.5 m. Similarly width of Chhatra Marg is 10.5m and not 24m. The 2018 report mentions number of cars to 925 against 1091 cars in 2011 report. Average Daily Traffic (ADT) as per 2003 report is 3484 PCU as against 1844 PCU in 2011 report. The 2018 report is that traffic volume had dipped from 226 PCU to 208 PCU.

Air Pollution Levels in Delhi

51. Delhi is one of the 122 identified non-attainment cities, based on ambient air quality data compiled by CPCB with reference to the air quality standards under the Air Act, 1981 and EP Act, 1986. This Tribunal is considering the remedial action in the matter in *O.A. No. 681/2018*. After noting that the identified causes of air pollution include vehicular pollution¹¹, industrial and construction sector pollution¹², reference was made to the Graded Response Action Plan

¹¹ M.C. Mehta v. Union of India (1985)2 SCC 431, M.C. Mehta v. Union of India (2001) 3 SCC 756, M.C. Mehta v. Union of India (1998) 6 SCC 63, M.C. Mehta v. Union of India (2002) 3 SCC 356, M.C. Mehta v. Union of India (1998) 6 SCC 60

¹² M.C. Mehta v. Union of India (1997) 2 SCC 353, M.C. Mehta v. Union of India and Shriram Foods and Fertilizer Industries and Anr. (1986) 2 SCC 235, Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P. (1985) 2SCC 431, Mohd. Haroon Ansari v. District Collector (1998) 6 SCC 60, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 4 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4SCC 575 , M.C. Mehta v. Union of India (2004) 6 SCC 588, M.C. Mehta v. Kamal Nath (2000)6 SCC 213

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(GRAP) notified by the MoEF&CC on 12.01.2017 stipulating specific steps for different levels of air quality such as improvement in emission and fuel quality and other measures for vehicles, strategies to reduce vehicle numbers, non-motorised transport network, parking policy, traffic management, closure of polluting power plants and industries including brick kilns, control of generator sets, open burning, open eateries, road dust, construction dust, etc.¹³. The Tribunal noted that on account of air pollution, India is ranked at 177 out of 180 countries in Environmental Performance Index.¹⁴ As per the World Air Quality Report, 2019 prepared by IQAir Air Visual, Delhi has been reported to be having the worst air quality amongst all the capital cities of the World for the 2nd consecutive year.¹⁵ It is also well known that air pollution contains greenhouse gases which have potential to lead to climate change having serious consequences on human existence. The Tribunal noted that air pollution has enormous impact on public health particularly children, senior citizens and the poor who are more vulnerable. We have already noted the data given by the project proponent showing that air quality norms are exceeded at the location in question. The data is of the date of application. There is no improvement claimed till date. In fact the situation is further deteriorating which is a well known fact.

52. The Tribunal also directed carrying capacity study of all the 102 non-attainment cities (which number went up to 122) vide order dated 08.10.2018 and evolving mechanism for review of Master Plans and

¹³ S.O.118(E), Notification, Ministry of Environment, Forest and Climate Change

¹⁴ <https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece>

¹⁵ World Air Quality Report, 2019 prepared by IQAir Air Visual

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shifting polluting activities identified in a study. Similar directions were issued for control of noise pollution. The Tribunal, vide order dated 08.10.2018, directed steps for bringing air quality within prescribed norms by taking steps to prevent polluting activities. The Tribunal directed that action plans be prepared indicating steps to be taken to check different sources of pollution having speedy, definite and specific timelines for execution. The Action Plans should be consistent with the carrying capacity assessment of the non-attainment cities in terms of vehicular pollution, industrial emissions and population density, extent of construction and construction activities etc. Depending upon assessed carrying capacity and source apportionment, the authorities may consider the need for regulating number of vehicles and their parking and plying, population density, extent of construction and construction activities etc. Guidelines may accordingly be framed to regulate vehicles and industries in non-attainment cities in terms of carrying capacity assessment and source apportionment. The matter was last reviewed on 20.11.2019 and further directions were issued for installing sufficient number of air quality monitoring stations, completing carrying capacity study, reviewing Master Plans to give effect to such study, prepare action plans to bring the air pollution and noise pollution within norms, carry out afforestation drive, clear legacy waste dump sites and finalise emergency response systems etc. The matter is still pending further consideration as carrying capacity study reports are awaited. This fact is being mentioned to demonstrate that carrying capacity assessment is crucial for sustainable development which is integral part of right to life guaranteed under the Indian Constitution and any

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activity beyond such carrying capacity is not permissible. In the present case, it has already come on record that there is no carrying capacity in the area in terms of air quality to sustain the project in question.

53. The Tribunal has also found that at times EC granted subject to general conditions of compliance of air, water and other environmental norms without effective monitoring mechanism has not been found to be effective mitigation of damage to the environment.¹⁶

High Rise Building

54. We may also consider the grievance against height of the building without considering its impact on the environment especially on account of closeness to the Ridge. We are of view that restrictions on the height of the buildings in such scenarios are inevitable to give effect to the Sustainable Development and Precautionary principles. In an article titled 'The Sustainability of Tall Building Developments: A Conceptual Framework' by Kheir-Al-Kodmany, Department of Urban Planning and Policy, College of Urban Planning and Public Affairs, University of Illinois at Chicago, Chicago, IL 60612, USA, published on 05.01.2018, sustainability of tall buildings on account of potential for fire incidents, adverse impact on micro climate due to

1. ¹⁶ Order dated 22.11.2019 in O.A. No. 837/2018, Sandeep Mittal v. MoEF&CC & Ors.
Para 14. No satisfactory mechanism exists at present, as shown by the above affidavit itself. It is stated that, at present, it takes 4.5 years for monitoring which means that for such long period the non-compliance continues making mockery of law. There has to be speedy monitoring and speedy action, wherever necessary. There has to be a robust plan for the purpose which is the responsibility of the concerned Government Departments. We place on record our disapproval for the present sorry state-of-affairs and expect meaningful improvement.

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wind funneling and turbulence around their bases generation of carbon dioxide because of heavy machinery and equipment and waste management has been studied. It may be appropriate to refer to some of the observations:-

“Fire Incidences

Tall buildings are prone to massive losses of lives and valuable properties caused by fire. High-rise buildings present several unique challenges not found in traditional low-rise buildings, including greater difficulties for a firefighter to access a smoldering high-rise building, longer egress times and distances, complex evacuation strategies, and smoke movement and fire control. Typical dangers at a fire incidence involve flame, smoke, heat, toxic gases, flashover, and backdraft explosions. However, the multiple floors of a high-rise building create the cumulative effect of needing greater numbers of firefighters to travel great vertical distances on stairs to evacuate the building.

Environmental Dimension

Further, tall buildings exert an adverse effect on the microclimate due to wind funneling and turbulence around their bases, causing discomfort to pedestrians. They cast a shadow on nearby buildings, streets, parks, and open spaces, and they may obstruct views, reduce access to natural light, and prevent natural ventilation.

Energy and Carbon Emission

Also, tall buildings' construction requires great energy and generates considerable carbon dioxide because of operating heavy machinery and equipment such as powerful cranes and pumps (e.g., pumping water and concrete to upper floors) and dump trucks. Transporting building materials from far distances (sometimes across the globe) also consumes energy and produces immense carbon dioxide.

Bird Collision

*Bird-glass collisions are an unfortunate side effect of tall building developments throughout the world. Billions of birds perish from collisions with glass yearly, making it the second largest human-made hazard to birds after habitat loss. The U.S. alone is responsible for up to a billion birds yearly. To make matters worse, countless victim birds belong to already declining population species, including Canada Warbler (*Cardellina Canadensis*), Golden-winged Warbler (*Vermivora chrysoptera*), Kentucky Warbler (*Geothlypis Formosa*), Painted Bunting (*Passerina ciris*), Wood Thrush (*Hylocichla mustelina*) and Worm-*

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eating Warbler (Helmitheros vermivorum). Clear and reflective glass result in killing birds because birds perceive clear glass as an unobstructed passageway; and consequently, they attempt to fly through. On the other hand, reflective glass reflects the sky, clouds, and nearby vegetation reproducing a perceived habitat familiar and attractive to birds. Since the majority of modern tall buildings are clad in glass, tall buildings become a prime killer. Approximately 98% of flying vertebrates (birds and bats) migrate at heights below 500 m (1640 ft), and today, tallest buildings in the world reach or come close to the upper limits of bird migration paths. Although bird migration happens in fall and spring seasons, their collision into tall buildings occurs year-round [88]. At night, skyscrapers' lights lure birds in search of navigational cues. Birds usually use stars and the moon, and illuminated windows often divert them from their original flight paths. As such, birds can be attracted to artificially lit tall buildings resulting in collisions. This problem manifests on evenings of inclement weather, when the cloud's altitude is low, which forces birds to fly at lower heights. Attracted by the artificial light rays, some birds collide into the buildings' facades.

Waste Management

Tall buildings generate large volumes of waste because they house large population. On average, the disposal rate of an apartment unit is about one ton per year. While this amount of waste is not different from a low-rise residential unit, the method of waste collection in high-rises is more complicated than that in low-rises. One popular disposal method for tall buildings is the chute system, which consists of vertical shafts that transfer waste to a central location bin in a lower level of the building via gravity. Nevertheless, the large amount of waste accumulated on the ground floor poses a challenge to management systems."

55. We may note that initially the stand of DDA was that Master Plan of Delhi did not allow more than 8 floors. The project proponent filed W.P. (C) No. 3135/2010 before the Delhi High Court where the DDA repeated the said stand as noted in the order of High Court dated 07.03.2011. However, the High Court, considering the argument of the project proponent that project proponent will not able to achieve adequate coverage which was permissible, directed DDA to consider the representation of the project proponent for relaxing the height. Thereafter, on 18.05.2011, the DDA made a statement before the High Court that there will be no restrictions on the height of project.

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The environmental issues were however not subject matter of consideration in the said proceedings. Even if there is no legal restriction on height by development authority *de hors* environmental consideration, environmental sustainability issues, in this context which are presently the subject matter of these proceedings, cannot be ignored. Assessment of impact of such tall building on the environment has to be independently done which has not been done, rendering the impugned EC vulnerable on that ground.

Location of the Building – Closeness to Northern Ridge

56. As per data furnished by the project proponent, the distance of the project from the Northern Ridge is within 500 meters. Vide order dated 30.11.2011 Delhi High Court in W.P. (C) No. 3339 of 2011, *Ashok Kumar Tanwar v. Union of India*, held that clearance of Ridge Management Board is required for construction in the Ridge area. This view was affirmed by the Hon'ble Supreme Court (2016) 13 SCC 561, *DDA v. Kenneth Builders & Developers Pvt. Ltd.* No doubt, in the present case, the project is said to be 500 meters away from the Ridge and not in the Ridge as such, the impact of development of project of such magnitude close to the Ridge, which is a Reserve Forest of immense importance and also ecological lifeline of Delhi, was required to be considered which has not been done.
57. As already observed, object of requirement for environmental clearance is to ensure that no project adversely affecting environment comes up. Thus, EC can be granted only after ensuring that project will not have adverse impact on environment and not otherwise. This places responsibility on SEIAA and SEAC to conduct meaningful

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appraisal of impact of the project on the environment. Mitigation measures can be prescribed where the project is otherwise viable. In the present case, EC has been granted without adequate appraisal. There are conditions for mitigation, including compliance of Water Act and Air Act. However, once there is no carrying capacity in terms of air quality norms, merely laying down of such general conditions is merely a formality and not adequate safeguard.

58. Considering that carrying capacity of the area to sustain such high rise building has not been conducted and that the air and noise levels are already beyond permissible limits, the building is located very close to reserve forest, river Yamuna, premier educational institutions and hospitals and areas with high traffic density, we find it difficult to hold that there is application of mind in granting the EC. We are of the view that sustainability of this project was required to be evaluated by undertaking carrying capacity assessment in terms of:-

- Estimation of total Existing PM load (both PM_{2.5} and PM₁₀).
- Estimation of total Assimilative Capacity w.r.t. PM load (both PM_{2.5} and PM₁₀).
- Estimation of total Supportive Capacity w.r.t. PM load (both PM_{2.5} and PM₁₀).

As already observed above, the SEAC has not examined the above aspects and also Isopleth of predicted ground level concentration of pollutants because of additive effect of such high rise project, in terms of increased traffic load on recipient air has not been predicted which vitiates the impugned EC. We also do not find

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Windrose diagram of air pollution on record as apparently no pollution Windrose analysis has been conducted.

59. In view of above, we conclude that the EC granted is without application of mind.
60. **Re: Issue No. (iii) – Whether case is made out for directions by this Tribunal.**

In view of our conclusion that the EC has been granted without proper evaluation and the project cannot be allowed without such proper evaluation about its sustainability or otherwise in the light of available data, a case is made for interference by this Tribunal for having an evaluation done from an independent Committee of experts. As already noted, existing air and noise levels do not permit any further additive load in the area, particularly a high rise building having adverse impacts on environment, including potential for fire incidents, adverse impact on micro climate due to wind funneling and turbulence around their bases, generation of particulate matter because of heavy machinery and equipment and waste management. There will be unmanageable impact on traffic density and adverse impact on the flora and fauna and groundwater regime of nearby pristine Ridge.

As noted earlier, the site in question was originally parking for the Metro Station. Once the site becomes a group housing complex, the parking which was to be at this site will now be on public roads, causing further congestion and consequent pollution. Delhi is already grappling with the problem of parking and it is a matter of common knowledge that most of the public roads have been converted into parking lots on account of ever increasing number of vehicles without

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adequate carrying capacity of road infrastructure. Present location is equally affected, if not more, as already discussed.

61. As already mentioned, it is well settled that Sustainable Development and Precautionary Principles are part of right to life.¹⁷ The same are also enforceable under Section 20 of the National Green Tribunal Act, 2010. The polluting activities have to be prevented for clean

¹⁷ (1996) 5 SCC 647

Para 10. The traditional concept that development and ecology are opposed to each other is no longer acceptable. "Sustainable Development" is the answer. In the international sphere, "Sustainable Development" as a concept came to be known for the first time in the Stockholm Declaration of 1972. Thereafter, in 1987 the concept was given a definite shape by the World Commission on Environment and Development in its report called "Our Common Future". The Commission was chaired by the then Prime Minister of Norway, Ms G.H. Brundtland and as such the report is popularly known as "Brundtland Report". In 1991 the World Conservation Union, United Nations Environment Programme and Worldwide Fund for Nature, jointly came out with a document called "Caring for the Earth" which is a strategy for sustainable living. Finally, came the Earth Summit held in June 1992 at Rio which saw the largest gathering of world leaders ever in the history — deliberating and chalking out a blueprint for the survival of the planet. Among the tangible achievements of the Rio Conference was the signing of two conventions, one on biological diversity and another on climate change. These conventions were signed by 153 nations. The delegates also approved by consensus three non-binding documents namely, a Statement on Forestry Principles, a declaration of principles on environmental policy and development initiatives and Agenda 21, a programme of action into the next century in areas like poverty, population and pollution. During the two decades from Stockholm to Rio "Sustainable Development" has come to be accepted as a viable concept to eradicate poverty and improve the quality of human life while living within the carrying capacity of the supporting ecosystems. "Sustainable Development" as defined by the Brundtland Report means "Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs". We have no hesitation in holding that "Sustainable Development" as a balancing concept between ecology and development has been accepted as a part of the customary international law though its salient features have yet to be finalised by the international law jurists.

11. Some of the salient principles of "Sustainable Development", as culled out from Brundtland Report and other international documents, are Inter-Generational Equity, Use and Conservation of Natural Resources, Environmental Protection, the Precautionary Principle, Polluter Pays Principle, Obligation to Assist and Cooperate, Eradication of Poverty and Financial Assistance to the developing countries. We are, however, of the view that "The Precautionary Principle" and "The Polluter Pays Principle" are essential features of "Sustainable Development". The "Precautionary Principle" — in the context of the municipal law — means:

(i) Environmental measures — by the State Government and the statutory authorities — must anticipate, prevent and attack the causes of environmental degradation.

(ii) Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

(iii) The "onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign.

Para 13 The Precautionary Principle and the Polluter Pays Principle have been accepted as part of the law of the land. Article 21 of the Constitution of India guarantees protection of life and personal liberty. Articles 47, 48-A and 51-A(g) of the Constitution are as under:

"47. *Duty of the State to raise the level of nutrition and the standard of living and to improve public health.*—The State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties and, in particular, the State shall endeavour to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health.

48-A. *Protection and improvement of environment and safeguarding of forests and wildlife.*—The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.

51-A. (g) to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures."

Apart from the constitutional mandate to protect and improve the environment there are plenty of post-independence legislations on the subject but more relevant enactments for our purpose are: the Water (Prevention and Control of Pollution) Act, 1974 (the Water Act), the Air (Prevention and Control of Pollution) Act, 1981 (the Air Act) and the Environment (Protection) Act, 1986 (the Environment Act). The Water Act provides for the constitution of the Central Pollution Control Board by the Central Government and the constitution of the State Pollution Control Boards by various State Governments in the country. The Boards function under the control of the Governments concerned. The Water Act prohibits the use of streams and wells for disposal of polluting matters. It also provides for restrictions on outlets and discharge of effluents without obtaining consent from the Board. Prosecution and penalties have been provided which include sentence of imprisonment. The Air Act provides that the Central Pollution Control Board and the State Pollution Control Boards constituted under the Water Act shall also perform the powers and functions under the Air Act. The main function of the Boards, under the Air Act, is to improve the quality of the air and to prevent, control and abate air pollution in the country. We shall deal with the Environment Act in the latter part of this judgment.

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environment, particularly right to breathe fresh air. Citizens of Delhi are already facing threat to their health on account of air, noise and other pollution. No additive load thereto can be permitted by such unviable mega project.

62. While *prima facie* the project does not appear to be viable for the reasons already mentioned, we are of the view that least which ought to be done is to suspend the EC, consequential Consent to Establish and further activities of the project proponent and have an independent evaluation conducted in the interest of environment and public health.

We have already noted the stand taken by the DPCC that SEIAA is not functional and DPCC is only a secretariat for SEIAA without any SEIAA member available. Thus, the evaluation will now have to be done by an independent Committee to ascertain viability of the project having regard to the existing environmental status and realistic impact of the project on the recipient environment, including in terms of the ambient air quality.

The assessment may be made independent of the observations made herein above within two months from today.

The Committee will comprise a senior representative of MOEF&CC; a senior scientist from the Indian Council of Forestry Research and Education, Dehradun; a scientist/engineer from the Central Ground Water Board, New Delhi; a senior scientist/engineer from the Central Pollution Control Board; a representative of National Disaster Management Authority, Govt. of India; representative of School of Planning and Architecture, New Delhi, senior scientists on

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each from Wadia Institute of Himalayan Geology, Dehradun, G.B. Pant Institute, Almora and IIT Kanpur. The Nodal Agency for compliance and coordination will be Member Secretary, CPCB. First meeting of the Committee may be held preferably within two weeks from today. The Registry may furnish a copy of complete set of paperbook to the Member Secretary, CPCB forthwith.

Interim order dated 03.02.2020 restraining the project proponent from proceeding with any further activity will continue till the next date.

A copy of this order be sent to Secretary, MOEF&CC; Director General, Indian Council of Forestry Research and Education, Dehradun; the Central Ground Water Board, New Delhi; the Central Pollution Control Board; National Disaster Management Authority, Govt. of India; School of Planning and Architecture, New Delhi, Wadia Institute of Himalayan Geology, Dehradun, G.B. Pant Institute, Almora and IIT Kanpur by e-mail so that their representatives are nominated immediately.

List for further consideration on 09.07.2020.

Adarsh Kumar Goel, CP

S.P Wangdi, JM

Dr. Nagin Nanda, EM

Siddhanta Das, EM

February 27, 2020
Appeal No. 112/2018
A

ANNEXURE-3**62**

All Communications Should be
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SUPREME COURT OF INDIA

NEW DELHI

15th June, 2020

From:

**The Assistant Registrar,
Supreme Court of India, New Delhi.**

To,

**THE REGISTRAR,
NATIONAL GREEN TRIBUNAL, DELHI ,
FARIDKOT HOUSE, COPERNICUS MARG,
NEAR INDIA GATE, NEW DELHI, DELHI 110001
(PROCESS ID:65168/2020)
(C.A. NO.2485 / 2020 / XVII)**

CIVIL APPEAL No. 2485 OF 2020**REF : AN 112 OF 2018**

M/S YOUNG BUILDERS PRIVATE LTD

... Petitioner(s)/Appellant(s)

VERSUS

UNIVERSITY OF DELHI AND OTHERS

... Respondent(s)

Sir,

In pursuance of Order XII Rule 6, S.C.R. 2013, I am directed to transmit herewith certified copy of Signed Order dated **10th June, 2020** in the appeal above mentioned. The certified copy of the decree, if any, made in the said appeal will be sent later on .

Kindly communicate this order to concerned committee/authorities.

Yours faithfully,**ASSISTANT REGISTRAR**

ANNEXURE 4

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saumitra@eldfindia.com

From: Vidhi Anubhag <legalsectiondu@gmail.com>
Sent: Monday, June 29, 2020 5:10 PM
To: saumitra@eldfindia.com; Rohan Chawla; Anurag Ojha
Cc: Meena Panicker; Raman Mittal; mittal@law.du.ac.in; Sudhir sharma
Subject: Fwd: CA2485of2020 letter
Attachments: CA2485_2020.pdf

Dear All,

PFA the digital letter caused by the Registry, Hon'ble Supreme Court to Registrar, Hon'ble National Green Tribunal.

Thanks

SUDHIR SHARMA,
 JOINT REGISTRAR (LEGAL),
 UNIVERSITY OF DELHI
 DELHI-110007
 TELE - 011-27662841
 EXTN. 1338

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From: mohinder rupal <rupalmohinder@gmail.com>
Date: Mon, Jun 15, 2020 at 8:46 PM
Subject: Fwd: CA2485of2020 letter
To: Deputy Registrar Legal <legalsectiondu@gmail.com>, Sudhir sharma <sudhirdu@gmail.com>, sunandan sharma <sunandansharma78@gmail.com>, Meena Panicker <meenapanicker@gmail.com>, Raman Mittal <mittalraman@gmail.com>, Toshiba Imchen <toshibaimchen@gmail.com>

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From: Nalini Rangam, Senior Court Assistant <sca.nalinirangam@sci.nic.in>
Date: Mon, Jun 15, 2020 at 4:56 PM
Subject: CA2485of2020 letter
To: <rupalmohinder@gmail.com>, <chamber@aglaw.in>

Kindly find digital forwarding letter attached herewith, this is for your information.

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Regards
Nalini Rangam
Assistant Registrar
Supreme Court of India
New Delhi

--
Regards

Mohinder JS Rupal

Advocate-on-Record, Supreme Court of India, New Delhi

Chamber : 212, Block III, Lawyers Chambers, High Court Of Delhi, Delhi -110003

Office: A9A, Friends Colony East, New Delhi -110065

Phone/Fax: 011-46595646, **Mobile**: 09811151216

Email: rupalmohinder@gmail.com, mjsrupal@hotmail.com

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ANNEXURE-5

रजिस्ट्री सं० डी० एल०-33004/99

REGD. NO. D. L.-33004/99



भारत का राजपत्र The Gazette of India

असाधारण

EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)

PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित

PUBLISHED BY AUTHORITY

सं. 689]

नई दिल्ली, बुधवार, अप्रैल 1, 2015/चैत्र 11, 1937

No. 689]

NEW DELHI, WEDNESDAY, APRIL 1, 2015 / CHAITRA 11, 1937

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 1 अप्रैल, 2015

का.आ. 919 (अ)—केंद्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उपधारा (3) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए और भारत सरकार के तत्कालीन पर्यावरण और वन मंत्रालय की अधिसूचना संख्यांक का.आ. 1533(अ), तारीख 14 सितंबर, 2006 (जिसे इसमें इसके पश्चात् उक्त अधिसूचना कहा गया है) के अनुसरण में राज्य स्तर पर्यावरण समाघात निर्धारण प्राधिकरण, दिल्ली (जिसमें इसमें इसके पश्चात् प्राधिकरण, दिल्ली कहा गया है) गठित करती है, जिसमें निम्नलिखित सदस्य होंगे, अर्थात् :-

1. श्री कृष्ण मोहन साहनी, सेवानिवृत्त आई.ए.एस.,
मकान नं० 38, पाकेट 2, जसोला विहार, अपोलो अस्पताल के पीछे,
नई दिल्ली - 110025. —अध्यक्ष
 2. श्री कमल के. पंत (आचार्य),
रासायनिक इंजीनियरी विभाग, भारतीय प्रौद्योगिकी संस्थान, दिल्ली,
हौज खास, नई दिल्ली - 110016. —सदस्य
 3. निदेशक,
महात्मा गांधी इंस्टीट्यूट ऑफ कम्बेस्टिंग क्लाइमेट चेंज (एम.जी.आई.सी.सी.सी.),
पर्यावरण विभाग,
राष्ट्रीय राजधानी राज्यक्षेत्र, दिल्ली सरकार। —सदस्य-सचिव
2. प्राधिकरण, दिल्ली के अध्यक्ष और गैर-सरकारी सदस्य, राजपत्र में इस अधिसूचना के प्रकाशन की तारीख से तीन वर्ष की अवधि के लिए पद धारण करेंगे।
3. प्राधिकरण, दिल्ली ऐसी शक्तियों का प्रयोग करेगा और ऐसी प्रक्रियाओं का अनुसरण करेगा जो उक्त अधिसूचना में विनिर्दिष्ट हैं।

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4. प्राधिकरण, दिल्ली, राष्ट्रीय राजधानी राज्यक्षेत्र, दिल्ली के लिए पैरा 5 के अधीन गठित राज्य स्तर के विशेषज्ञ मूल्यांकन समिति की सिफारिशों के आधार पर उनका विनिश्चय करेगा।

5. प्राधिकरण, दिल्ली की सहायता के प्रयोजन के लिए, केंद्रीय सरकार, राष्ट्रीय राजधानी राज्यक्षेत्र दिल्ली सरकार से परामर्श करके राज्य स्तर के विशेषज्ञ मूल्यांकन समिति, दिल्ली (जिसे इसमें इसके पश्चात् एस.ई.ए.सी., दिल्ली कहा गया है) का गठन करता है, जिसमें निम्नलिखित सदस्य होंगे, अर्थात् :-

1. डॉ. मुकेश खेर (आचार्य), —अध्यक्ष
सिविल इंजीनियरी विभाग, भारतीय प्रौद्योगिकी संस्थान, दिल्ली,
हौज खास, नई दिल्ली - 110016.
2. डॉ. नवीन कुमार (आचार्य और प्रधान), —सदस्य
यांत्रिक इंजीनियरी विभाग,
दिल्ली प्रौद्योगिकी विश्वविद्यालय,
दिल्ली -- 110042.
3. डॉ. एस. के. सिंह (आचार्य), —सदस्य
सिविल और पर्यावरण इंजीनियरी विभाग,
दिल्ली प्रौद्योगिकी विश्वविद्यालय,
दिल्ली -- 110042.
4. डॉ. श्रीमती रीता कुमारी (प्रतिष्ठित वैज्ञानिक), —सदस्य
पर्यावरणीय जैव प्रौद्योगिकी प्रभाग,
इंस्टीट्यूट ऑफ जेनोमिक्स एंड इंटेग्रेटिव बायोलॉजी, डी.यू.,
नार्थ कैम्पस, माल रोड़, दिल्ली - 110007.
5. डॉ. संजय गुप्ता (आचार्य), —सदस्य
यातायात योजना विभाग,
योजना और स्थापत्य कला विद्यालय, 4-ब्लॉक-बी,
इंद्रप्रस्थ एस्टेट, नई दिल्ली -- 110002.
6. डॉ. सुमन लखनपाल (आचार्य), —सदस्य
वनस्पति विज्ञान विभाग, दिल्ली विश्वविद्यालय,
नार्थ कैम्पस, विश्वविद्यालय रोड़, विज्ञान संकाय,
विश्वविद्यालय एन्क्लेव, दिल्ली - 110007.
7. डॉ. अमरजीत कौर (आचार्य), —सदस्य
सेंटर ऑफ डिजास्टर मैनेजमेंट स्टडीज,
गुरु गोविन्द सिंह इन्द्रप्रस्थ विश्वविद्यालय,
ई-ब्लॉक, 106 और 107, सेक्टर-16 सी, द्वारका,
नई दिल्ली।
8. डॉ. अनुपम चट्टोपाध्याय, —सदस्य
भूविज्ञान विभाग, दिल्ली विश्वविद्यालय,
34, छात्र मार्ग, दिल्ली - 110007.
9. श्रीमती मीनाक्षी धोते, —सदस्य
पर्यावरण योजना विभाग,

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योजना और स्थापत्य कला विद्यालय, 4-ब्लॉक-बी,
इंद्रप्रस्थ एस्टेट, नई दिल्ली।

10. निदेशक (पर्यावरण),
पर्यावरण विभाग,
राष्ट्रीय राजधानी राज्यक्षेत्र दिल्ली सरकार।

—सचिव

6. एस.ई.ए.सी., दिल्ली के अध्यक्ष और सदस्य, राजपत्र में इस अधिसूचना के प्रकाशन की तारीख से तीन वर्ष की अवधि के लिए पद धारण करेंगे।
7. एस.ई.ए.सी., दिल्ली ऐसी शक्तियों का प्रयोग करेगी और ऐसी प्रक्रियाओं का अनुसरण करेगी, जो उक्त अधिसूचना में विनिर्दिष्ट हैं।
8. एस.ई.ए.सी., दिल्ली, सामूहिक दायित्व के सिद्धांत पर कार्य करेगी और अध्यक्ष, प्रत्येक मामले में एक मत होने का प्रयास करेगा और यदि एकमत नहीं हो सकती हो तो बहुमत का विचार अभिभावी होगा।
9. राष्ट्रीय राजधानी राज्यक्षेत्र, दिल्ली सरकार, प्राधिकरण, दिल्ली और एस.ई.ए.सी., दिल्ली के सचिवालय के रूप में कार्य करने वाले अभिकरण को अधिसूचित करेगी और यह सभी वित्तीय और संचारिक सहायता, जिसके अंतर्गत स्थान, सुविधा, परिवहन भी है और उसके सभी कानूनी कृत्यों की बाबत ऐसी अन्य सुविधाएं भी उपलब्ध कराएगी।
10. प्राधिकरण, दिल्ली के अध्यक्ष और सदस्यों तथा एस.ई.ए.सी., दिल्ली के अध्यक्ष और सदस्यों को बैठक फीस, यात्रा भत्ता और मंहगाई भत्ता, राष्ट्रीय राजधानी राज्यक्षेत्र, दिल्ली सरकार के संबद्ध नियमों के अनुसार संदत्त करेगा।

[सं. जे-11013/62/2007-आई.ए.-II(I)]

मनोज कुमार सिंह, संयुक्त सचिव

**MINISTRY OF ENVIRONMENT, FORESTS AND CLIMATE CHANGE
NOTIFICATION**

New Delhi, the 1st April, 2015

S.O. 919 (E).—In exercise of the powers conferred by sub-section (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) and in pursuance of the notification of the Government of India in the erstwhile Ministry of Environment and Forests, number S.O. 1533(E), dated the 14th September, 2006 (hereinafter referred to as the said notification), the Central Government hereby constitutes the State Level Environment Impact Assessment Authority, Delhi (hereinafter referred to as the Authority for Delhi) comprising of the following Members, namely:—

- | | |
|---|-------------------|
| 1. Shri Krishna Mohan Sahni, IAS Retired House No. 38, Pkt 2, Jasola Vihar, Behind Apollo Hospital, New Delhi -110025 | —Chairman |
| 2. Dr. Kamal K Pant (Professor) Department of Chemical Engineering IIT Delhi, Hauz Khas New Delhi - 110016 | —Member |
| 3. Director, Mahatma Gandhi Institute of Combating Climate Change (MGICCC), Department of Environment, Government of National Capital Territory of Delhi | —Member-Secretary |

2. The Chairman and non-official Member of the Authority for Delhi shall hold office for a term of three years from the date of publication of this notification in the Official Gazette.
3. The Authority for Delhi shall exercise such powers and follow the procedures as specified in the said notification.
4. The Authority for Delhi shall base its decision on the recommendations of the State level Expert Appraisal Committee constituted under paragraph 5 for the National Capital Territory of Delhi.
5. For the purposes of assisting the Authority for Delhi, the Central Government, in consultation with the Government of National Capital Territory of Delhi, hereby constitutes the State level Expert Appraisal Committee, Delhi (hereinafter referred to as SEAC for Delhi) comprising of the following Members, namely : —

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- | | | |
|-----|--|------------|
| 1. | Dr. Mukesh Khare (Professor) Department of Civil Engineering, Indian Institute of Technology, Delhi Hauz Khas, New Delhi – 110016 | —Chairman |
| 2. | Dr. Naveen Kumar (Professor and Head), Mechanical Engineering Department, Delhi Technology University, Delhi-110042 | —Member |
| 3. | Dr. S. K. Singh (Professor) Civil and Environmental Engineering Department, Delhi Technology University, Delhi-110042 | —Member |
| 4. | Dr. Mrs. Rita Kumar (Emeritus Scientist), Environmental Biotechnology Division, Institute of Genomics and integrative Biology DU North Campus Mall Road, Delhi – 110007 | —Member |
| 5. | Dr. Sanjay Gupta (Professor) Department of transport Planning, School of Planning and Architecture, 4-Block-B, Indraprastha Estate, New Delhi-110002 | —Member |
| 6. | Dr.Suman Lakhanpaul (Professor), Department of Botany, University of Delhi, North Campus, University Road Faculty of Science, University Enclave Delhi-110007 | —Member |
| 7. | Dr. Amarjeet Kaur (Professor), Centre of Disaster Management Studies, Guru Gobind Singh, Indraprastha University, E- Block, 106 and 107, Sector -16 C, Dwarka, New Delhi | —Member |
| 8. | Dr. Anupam Chattopadhyay Department of Geology, University of Delhi, 34, Chhatra Marg, Delhi 110007. | —Member |
| 9. | Mrs. Meenakshi Dhote, Department of Environment Planning, School of Planning and Architecture, 4 Block B, I P Estate, New Delhi. | —Member |
| 10. | Director (Environment), Department of Environment, Government of NCT of Delhi | —Secretary |

6. The Chairman and Members of SEAC for Delhi shall hold office for a term of three years from the date of publication of this notification in the Official Gazette.

7. The SEAC for Delhi shall exercise the powers and follow the procedures as specified in the said notification.

8. The SEAC for Delhi shall function on the principle of collective responsibility and the Chairman shall endeavor to reach a consensus in each case, and if consensus cannot be reached, the view of the majority shall prevail.

9. The Government of National Capital Territory of Delhi shall notify an agency to act as Secretariat for the Authority for Delhi and SEAC for Delhi and shall provide all financial and logistic support including accommodation, transportation and such other facilities in respect of all its statutory functions.

10. The sitting fee, travelling allowance and dearness allowance to the Chairman and Member of the Authority for Delhi and the Chairman and Members of SEAC for Delhi shall be paid in accordance with the concerned rules of the Government of National Capital Territory of Delhi.

[No. J-11013/62/2007- IA.II (I)]

MANOJ KUMAR SINGH, Jt. Secy.

ANNEXURE-6~~Annexure 9/2~~ 69

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**STATE LEVEL EXPERT APPRAISAL COMMITTEE
(SEAC)-DELHI
OFFICE OF DELHI POLLUTION CONTROL COMMITTEE
5th FLOOR, ISBT BUILDING, KASHMERE GATE, DELHI 110006
Visit us at <http://dpcc.delhigovt.nic.in>**

F.No. DPCC/SEAC/2018/95/ 6697-6711

Dated: 27/02/2018

MINUTES OF MEETING

Please find enclosed herewith the minutes of meeting of 95th meeting of the State Level Expert Appraisal Committee (SEAC) held on 24.02.2018 in the conference room of DPCC, at 5th Floor, ISBT Building, Kashmere Gate, Delhi - 110006 for information and necessary action if any.

Anil Kumar
(Dr Anil Kumar)
Secretary,
SEAC- Delhi

To:

1. **Sh. Krishna Mohan Sahni, IAS Rtd. (Chairman, SEIAA)**, House No.38, Pkt 2, Jasola Vihar, Behind Apollo Hospital, New Delhi-11002.
2. **Dr. Kamal K Pant (Professor) (Member, SEIAA)**, Department of Chemical Engineering IIT Delhi, Hauz Khas, New Delhi-110016
3. **Director, Mahatma Gandhi Institute of Combating Climate Change (MGICCC)(Member Secretary, SEIAA)**, Department of Environment, Government of National Capital Territory of Delhi, Pali-Bakthawarpur Road, Alipur, New Delhi, Delhi-110036.
4. **Dr. Mukesh Khare (Professor) (Chairman, SEAC)**, Department of Civil Engineering, Indian Institute of Technology, Delhi Hauz Khas, New Delhi-110016.
5. **Director (Environment), (Secretary, SEAC)**, Department of Environment, Government of NCT of Delhi.
6. **Dr. Naveen Kumar (Professor and Head) (Member, SEAC)**, Mechanical Engineering Department, Delhi Technology University, Delhi-110042.
7. **Dr. S. K. Singh (Professor) (Member, SEAC)**, Civil and Environmental Engineering Department, Delhi Technology University, Delhi-110042.
8. **Dr. Mrs. Rita Kumar (Emeritus Scientist), (Member, SEAC)**, Environmental Biotechnology Division, Institute of Genomics and integrative Biology DU North Campus, Mall Road, Delhi-110007.
9. **Dr. Sanjay Gupta (Professor) (Member, SEAC)**, Department of Transport Planning, School of Planning and Architecture, 4-Block-B, Indraprastha Estate, New Delhi-110002.

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10. **Dr. Suman Laxhanpaul** (Professor) (Member, SEAC), Department of Botany, University of Delhi, North Campus, University Road Faculty of Science, University Enclave Delhi-110007.
11. **Dr. Amarjeet Kaur** (Professor) (Member, SEAC), Centre of Disaster Management Studies, Guru Gobind Singh, Indraprastha University, E-Block, 106 and 107, Sector-16 C, Dwarka, New Delhi.
12. **Dr. Anupam Chattopadhyay**, (Member, SEAC), Department of Geology, University of Delhi, 34, Chattra Marg Delhi-110007.
13. **Mrs. Meenakshi Dhote** (Member, SEAC), Department of Environment Planning, School of Planning and Architecture, 4 Block B, IP Estate, New Delhi
14. **PS to Secretary (Environment) cum Chairman, DPCC-** for kind information.
15. **IT Cell** for placing the minutes on website.

Anil Kumar
(Dr Anil Kumar)
Secretary,
SEAC- Delhi

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Minutes of the 95th SEAC Meeting Dated. 24.02.2018

STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC)-DELHI
OFFICE OF DELHI POLLUTION CONTROL COMMITTEE
5th FLOOR, ISBT BUILDING, KASHMERE GATE, DELHI-110006

Minutes of the 95th meeting of State Level Expert Appraisal Committee (SEAC) held on 24.02.2018 at 10:00 A.M. in the Conference Room of DPCC at 5th Floor, ISBT, Kashmere Gate, Delhi-06.

The 95th meeting of State Level Expert Appraisal Committee (SEAC) was held on 24.02.2018 in the Conference Room of DPCC under the Chairmanship of Dr Mukesh Khare. The following members of SEAC were present in the meeting:

- | | | |
|-----------------------------|---|-----------|
| 1. Dr. Mukesh Khare | - | In -Chair |
| 2. Dr. Sanjay Gupta | - | Member |
| 3. Dr. Naveen Kumar | - | Member |
| 4. Dr. Anupam Chattopadhyay | - | Member |
| 5. Dr. Anil Kumar | - | Secretary |

Dr. S.K. Singh, Dr. Suman Lakhanpaul, Mrs. Meenakshi Dhote, Dr. Amarjeet Kaur, and Dr. Rita Kumar, Members SEAC, could not attend the meeting. Shri Pankaj Kapil (SEE), DPCC & Sh. S.K. Goyal (EE), DPCC assisted the Committee.

The minutes of 94th meeting of SEAC held on 03.02.2018 were confirmed by the members.

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Minutes of the 95th SEAC Meeting Dated. 24.02.2018

Agenda No. 01**Case No. C- 321**

| | |
|----------------------------|---|
| Name of the Project | E.C for Barapullah Elevated Road (Phase-III) From Sarai Kale Khan to Mayur Vihar(Phase-I), New Delhi. |
| Project Proponent | Public Works Department (Govt. of NCT of Delhi) |
| Proposal No. | SIA/DL/NCP/18496/2016 |
| File No. | DPCC/SEIAA-III/C-343/DL/2017 |

In OA no. 479/2015 filed by Sh. Manoj Kumar Mishra, Hon'ble NGT, as per order dated 26.10.2015 had stayed the construction activity of Construction of Elevated Road over Barapullah Nallah starting from Sarai Kale Khan to Mayur Vihar, New Delhi (Phase-III) for want of Environmental Clearance.

The representation dated 10.11.2015 was considered in the meeting of SEIAA held on 24.11.2015 and Authority decided to refer the matter to SEAC for suitable examination and comments. SEAC in its 75th meeting held on 16.12.2015 & 76th meeting held on 30.01.2016 decided that the legal opinion from Legal Cell of DPCC be obtained.

The legal cell of DPCC has noted that "Bridge" is not covered under the EIA Notification of 2006 and the entry related to High Way is similar to the Roads/ Bridge. It has further been commented that the Hon'ble Green Tribunal vide its judgement dated 12.02.2015 in the matter of "Vikrant Kumar Tongad Vs Delhi Tourism & Transport Corporation and ors" held as follows:

1. We hold that construction of a bridge or similar activity covering a buildup area ≥ 150000 sq. mtrs and/or covering an area of ≥ 50 hectares, would be covered under Entry 8(b) of the schedule of the Regulations 2006.
2. The legal cell of DPCC has opined that PWD has to apply for Environmental Clearance for this project in view of the above judgments of the NGT dated 12.02.2015 and matter has been received back from DPCC with the comment that a copy of the judgment of Hon'ble NGT may be send to MOEF with a request to take necessary action for amendment to provide clarity and to bring ease of doing business with respect of construction of bridges.

As decided by SEAC in its 77th meeting held on 27.02.2016 referred the matter to SEIAA with the recommendation that Project authorities be directed to apply for Environment Clearance under entry 8(b) of the schedule of EIA Notification,2006 and copy of the judgement of Hon'ble NGT dated 12.02.2015 be sent to MOEF with a request to take necessary action for amendment to provide clarity and to bring ease of doing business with respect of construction of bridges and. As decided by SEIAA in its 30th meeting held on 30.03.2016 the project proponent was directed to apply for EC under entry 8(b) of the schedule of EIA Notification,2006 and copy of the judgement of Hon'ble NGT, vide office letter dated 12.04.2016.

The Project Proponent submitted a proposal for grant of Terms of Reference for Proposed project "Barapullah Elevated Road (Phase-III) From Sarai Kale Khan to MayurVihar(phase-I), New Delhi. After due deliberations, the SEAC in its 83rd meeting held on 15.10.2016 decided to issue ToR as for conducting Environment Impact Assessment study and information to be included in EIA/EMP report. Accordingly TOR has been issued vide letter dated 10.11.2016.

Subsequently the project proponent submitted its application on OSMEC portal on 16.03.2017 for grant of Environment Clearance

The hard copy/EIA report submitted during meeting of 88th SEAC held on 01.04.2017. During the discussions Project Proponent informed that construction was started in April'2015.

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Minutes of the 95th SEAC Meeting Dated. 24.02.2018Agenda No.05Case No. C-353

| | |
|---------------------|--|
| Name of the Project | Amendment in EC of Group Housing Complex located at 1 and 3 Cavalry Lane and 4 Chhatra Marg at Civil Lines Delhi |
| Project Proponent | YOUNG BUILDERS P LTD, 10A, Scindia House, Connaught Circus, New Delhi-110002. |
| Proposal No. | SIA/DL/NCP/72616/2018 |
| File No. | DPCC/SEIAA-III/C-353/DL/2018 |

Details of the proposed project is as under:

The Proposal is for grant of amendment in Environmental Clearance of Group Housing Complex at 1 and 3 Cavalry Lane and 4, Chhatra Marg at Civil Lines Delhi for Revision of built up area of 70,265.95 sq.m. to 1,17,733.28 sq m. The project proponent has applied under the head of fresh case with all details as per OSMEC portal. The project is located at 28 °41 '40 " N latitude and 77°12 ' 50"E longitude. PP has applied for amendment of EC stating in Form I that wrt EC letter no DPCC/SEAC/50/SEIAA/1/2012 dated 13th August, 2012 construction not started at site and has not submitted copy of certified compliance status for EC issued on 13.08.2012 from Regional Office (Central Region) of MoEF & CC& GOI as warranted vide Office Memorandum No. J-11011/618/2010-IA-II(I) dated 30.05.2012 for expansion projects. Details of the project are as under:

- Area detail:** The total plot area of the project is 20,000 sq.m.. The total built-up area as per earlier EC is 70265.95sq.m & proposed built-up area is 1,17,733.81sq.m. The permissible FAR is 40500 sq.m & total proposed FAR 40498.59 sq.m exclusive of EWS area. The maximum permissible ground coverage is 6,666 sq.m. The total ground coverage as per earlier EC 2130.64 sq.m. & proposed will be 1881.6 sq.m. The total nos. of dwelling units as per earlier EC was 324 Nos inclusive of EWS units & proposed dwelling units will be 410 Nos as per revised proposal inclusive of EWS units. The total nos. of population as per earlier EC was 1205 persons & proposed revised population will be 1785 persons. The total number of Towers/Blocks are 4. The total height of building as per earlier EC was 117 metre & proposed revised height of the building will be 139.6 metre. The total number of floors as per earlier EC were S+G+35 & proposed revised number of floors will be S+G+37. The basement area as per earlier EC 23522.92 sq.m. & proposed revised basement area is 31,740.26 sq.m. The number of basement proposed are 2.
- Water details:** The source of water during construction phase is STP treated water. Total water requirement during operational phase as per earlier EC was 203KLD and proposed revised water requirement will be 224KLD with fresh water demand of 157KLD. The source of water during operational phase will be Delhi Jal Board and water supply scheme has been approved by DJB vide letter dated 07.10.2015. The total waste water generation will be 192 KLD which will be treated at on site STP of 200KLD.
- Solid waste:** About 840 Kg/day of total solid waste will be generated from the complex. The organic waste convertor is proposed.
- Power:** The total power requirement is 2808 KV and will be met from TPDDL.
- Parking facility:** Proposed revised ECS will be 854 Nos.
- Eco-Sensitive areas:** The shortest aerial distance of the project from Asola Wildlife Sanctuary is 21.5 Km & from Okhla Bird Sanctuary is 16 Km respectively.
- Plantation:** The total green area proposed as per earlier EC 8373.75 sq.m. and proposed green area will be 3411.97 sqm. Number of trees at site will be 268 nos.
- Cost of the project:** The cost of the project as per earlier EC Rs. 321 Crores and proposed cost of the project 257.28 Crores.

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Minutes of the 95th SEAC Meeting Dated. 24.02.2018

After due deliberations, the SEAC in its 95th meeting held on 24.02.2018 recommended as follows:

Based on the information furnished, documents shown & submitted, presentation made by the project proponent SEAC sought the following information:

1. Revised water mass balance chart with minimum excess waste water discharge in rainy and non-rainy season and with action plan to re-use/recycle the excess treated water.
2. Schematic drawing of proposed STP of enhanced capacity.
3. Plan for handling the excavated earth is required to be submitted along with revised EMP (Environment Management Plan) for dust mitigation measures as per MoEF Notification No. GSR 94 (E) dated 25.01.2018 incorporating the provisions of spraying nozzles for dust suppression and frequency of spraying.
4. Details/location of ambient air monitoring points in basements including the ventilation cycle of fresh and recycled air.
5. Point wise comments on the issues raised vide circular no. J-11013/71/2016-IA.I(M) dt: 25 October, 2017 are required to be furnished.
6. Traffic management plan taking into consideration the latest traffic scenario.
7. Landscape plan with demarcation for total green area and soft green area.
8. Proposed plan for implementation of renewable energy.

Agenda No.06

Case No. C-352

| | |
|---------------------|--|
| Name of the Project | Terms of Reference (ToR) for carrying out EIA studies of the proposed Common Bio-Medical Waste Treatment Facility (CBWTF) located at B-92 Okhla Industrial Area, Phase II, New Delhi |
| Project Proponent | Director, Synergy Waste Management Private Limited 517-518, 5th Floor Dmall, Rohini, Sector- 10, New Delhi |
| Proposal No. | SIA/DL/MIS/20252/2017 |
| File No. | DPCC/SEIAA-III/C-352/DL/2018 |

Project proponents have filed the application for issuance of the TOR for setting up the new Common Bio-Medical Waste Facilities in Delhi. Nobody appeared on the behalf of project proponent.

After due deliberations, the SEAC in its 95th meeting held on 24.02.2018 recommended as follows:

Deferred for further consideration in next SEAC meeting.

ANNEXURE-7

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**CENTRAL POLLUTION CONTROL BOARD
PARIVESH BHAWAN
EAST ARJUN NAGAR, DELHI -110032**

No. B-31013/30/2020/UPC-I/

Date: July 03, 2020

Meeting Notice

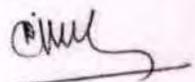
Subject: Meeting in the Matter of CIVIL APPEAL NO. 2485 OF 2020 before Hon'ble Supreme Court titled as "M/s. Young Builders Private Ltd. Vs University of Delhi & Ors."

Ref.:

1. Hon'ble Supreme Court's Order dated 10.06.2020 in the matter of CIVIL APPEAL NO. 2485 OF 2020 titled as "M/s. Young Builders Private Ltd. Vs University of Delhi & Ors."
2. Hon'ble NGT's Order of hearing dated 10.02.2020 and uploaded on 27.02.2020 in Matter of Appeal No. 112/2018 titled as University of Delhi Vs. Ministry of Environment Forest and Climate Change & Ors.

In context to above mentioned references, I am directed to convey that meeting of the Committee is scheduled to convene on July 08, 2020 at 3:00 PM to give an opportunity of preliminary hearing to M/s. Young Builders Private Ltd., University of Delhi and Delhi Metro Rail Corporation. The meeting shall be convened through video conferencing.

Committee Members, Appellant (M/s. Young Builders Private Ltd.), University of Delhi and Delhi Metro Rail Corporation are requested to participate in the meeting through Video Conferencing. A line of confirmation through return mail to upc1.cpcb@gov.in / nkgupta.cpcb@nic.in will be appreciated. Links for Video Conferencing are also being mailed shortly.



[N. K. Gupta]
Divisional Head- UPC-I

To:

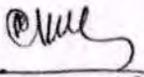
1. The Joint Secretary, CP Division, MoEFCC, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi - 110003 (Kind attention: Dr. Vinod K. Singh, Scientist 'E')
2. The Secretary, Indian Council of Forestry Research and Education, P.O. - New Forest, Dehradun - 248006 (Kind attention: Mr. N. Bala, Scientist 'F')
3. The Member (HQ), Central Ground Water Board, Bhujal Bhawan, NH-IV, Faridabad - 121001 (Kind attention: Mr. Jyothi Kumar Nalli, Scientist 'D')
4. The Member Secretary, National Disaster Management Authority, Govt. of India, NDMA Bhawan, A-1, Safdarjung Enclave, New Delhi - 110029

contd. P2/-

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5. The Director, Delhi School of Planning and Architecture, 4-Block-B, Indraprastha Estate, New Delhi-110002 (Kind attention: Dr. Meenakshi Dhote, HOD-LA)
6. The Director, Wadia Institute of Himalayan Geology, 33 GMS Road, Dehradun - 248001, India
7. The Director, G. B. Pant Institute, Almora, Kosi - Katarmal, Almora, Uttarakhand 263643 (Kind attention: Mr. S. Tarafdar, Scientist 'E')
8. The Director, Indian Institute of Technology Kanpur, Kalyanpur, Kanpur, UP - 208016 (Kind attention: Dr. Mukesh Sharma, Professor)
9. The Director, M/s. Young Builders Pvt. Ltd., Regd Off. 43, Babar Road, Bengali Market, New Delhi - 110001.
10. The Registrar, University of Delhi, 5, Cavalry Lane, University of Delhi, Delhi - 110007 (Mr. Sudhir Sharma, Joint Registrar (Legal)).
11. The Managing Director, Delhi Metro Rail Corporation Ltd., Metro Bhawan Fire Brigade Lane, Barakhamba Road, New Delhi - 110001.
12. PS to MS, CPCB, Delhi for kind information of MS pl.
13. DH, IT Division, CPCB, Delhi: With request to arrange the Video Conferencing.


03/7/20
[N.K. Gupta]
DH-UPC-I

NSOH - 19th Feb, 18**ANNEXURE-8**

BEFORE THE NATIONAL GREEN TRIBUNAL

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PRINCIPAL BENCH, NEW DELHI

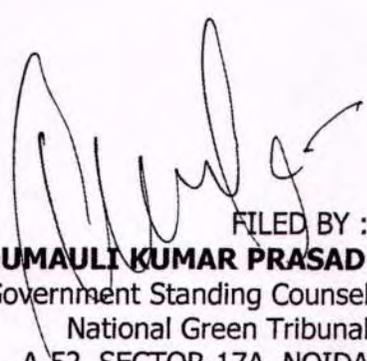
Appeal No. 112 of 2018

In the matter of:

UNIVERSITY OF DELHI

..APPELLANT

VERSUS

MINISTRY OF ENVIRONMENT FORESTS ...RESPONDENTS
AND CLIMATE CHANGE AND OTHERS.**AFFIDAVIT FILED BY MINISTRY OF DEFENCE, GOVERNMENT
OF INDIA/RESPONDENT NO.11****(For Index Please See Inside)**Place: New Delhi
Date: ____ .01.2019
FILED BY :
ARDHENDUMAULI KUMAR PRASAD
Central Government Standing Counsel
National Green Tribunal
A-52, SECTOR-17A, NOIDA
UTTAR PRADESH - 201301
PH: 0120-2488800-01-02, 9311612800

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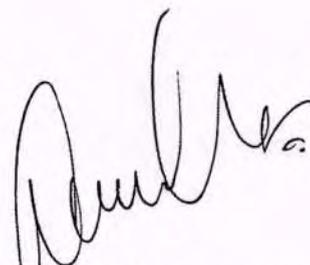
| Sr. No. | Particulars | Page No. |
|---------|---|-------------|
| 1. | Affidavit by Respondent No. 11 i.e., Ministry of Defence, Government of India. | 1078-1085 |
| 2. | ANNEXURE-1 : The true copy of the ID No. 203/DO(S)/D(Lands)/97, dated 24.03.2000. | 1086- |
| 3. | ANNEXURE-2 : The true copy of the letter No.13015/2/DEO(Lands)/2000, dated 02.05.2000. | 1087 - 1088 |
| 4. | ANNEXURE-3 : The true copy of the notification No. F.7(26)/2000/L&B/LA /MRTS/13537 dated 15.02.2000. | 1089-1090 |
| 5. | ANNEXURE-4 : The true copy of the notification No. F7(26)/2000/L&B/LA /MRTS/16126 dated 14.02.2001. | 1091-1092 |
| 6. | ANNEXURE-5 : The True copy of the award No. No.7/DC/N/2001-02, dated 06.09.2002. | 1093-1115 |
| 7. | ANNEXURE-6 : The true copy of Order dated 28.07.2006 in LAC No.86/2002 | 1116-1126 |
| 8. | ANNEXURE-7 : The true copy of the Order dated 04.01.2013 passed by the Hon'ble High Court of Delhi. | 1127-1136 |

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| | | |
|-----|--|-----------|
| 9. | ANNEXURE-8: The true copy of the Order dated 11.02.2013 passed by the Hon'ble High Court of Delhi. | 1137- |
| 10. | ANNEXURE-9: The True copy of the order of the Hon'ble Apex Court dated 17.11.2015 in Special Leave Petition No. 14357/2013. | 1138-1140 |
| 11. | Annexure-10: The true copy of the letters (05 nos.) written by this office for payment of compensation. | 1141-1145 |

12. Proof of Service

1146.



ARDHENDU MAULI KUMAR PRASAD

Central Government Standing
Council,

National Green Tribunal

A-52, Sector-17A

Noida (U.P.)

Ph - 0120 - 2488000 - 01-02

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BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

Appeal No. 112 of 2018

In the matter of:

UNIVERSITY OF DELHI

..APPELLANT

VERSUS

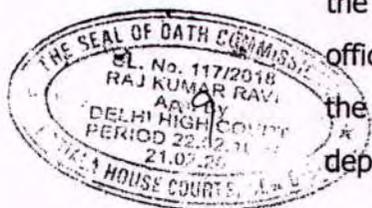
**MINISTRY OF ENVIRONMENT FORESTS ...RESPONDENTS
AND CLIMATE CHANGE AND OTHERS.**

**AFFIDAVIT FILED BY MINISTRY OF DEFENCE/RESPONDENT
NO.11**

MOST RESPECTFULLY SHOWETH :

I, Shri Pushpendra Singh S/O Sh. N. Singh Aged about 49 years, Presently Posted as Defence Estates Officer, Delhi Circle, Delhi Cantt. on behalf of Ministry of Defence, New Delhi, do hereby solemnly affirm and declare on oath as under:-

1. That I am conversant with the facts and circumstances of the case and am competent to swear this affidavit in my official capacity and on behalf of the Respondent No. 11 on the basis of the records, documents and facts available in the department.
2. That I have read and understood the contents of the Appeal and filing this affidavit in its reply.



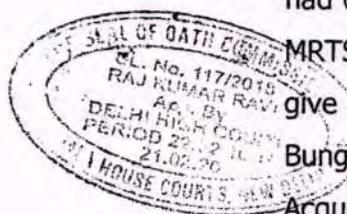
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3. That the deponent craves liberty to raise additional submissions or file additional affidavit in case need arises during the course of arguments.

BRIEF SUBMISSIONS:

IT IS MOST RESPECTFULLY SHOWETH:

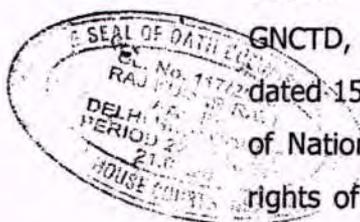
4. That as per the M.L.R (Military Land Register), maintained by the office of Defence Estates Officer, Delhi Circle, Delhi Cantt. Bungalows No. 1 & 4, Kingsway Camp, Delhi were held on lease in perpetuity under the Cantonment Code 1899. Bungalow No. 2 & 3, Kingsway Camp, Delhi were held on lease in perpetuity in Schedule X of CLA (Cantonment Land Administration Rules) Rules, 1937. These Bungalows were under the management of Defence Estates Officer as were the property of Govt. of India, Ministry of Defence.
5. That the Govt. of Delhi proposed the acquisition of land at Cavalary Lane and Chhatra Marg, Mall Road, Civil lines area for construction of Mass Rapid Transport System/Metro Rail. A part of the proposed acquisition pertained to land falling within the limits of the above mentioned leased Bungalows No. 1, 2, 3 and 4 of Ministry of Defence.
6. That the Ministry of Defence, Government of India (MoD for short) vide ID No. 203/DO(S)/D(Lands)/97, dated 24.03.2000 had considered the case for transfer of Defence land for Delhi MRTS Phase-I, (underground corridor) and it was decided to give the NOC for the acquisition of Defence land in four Bungalows held on lease under the provisions of Land Acquisition Act, 1894. The true copy of the ID No. 203/DO(S)/D(Lands)/97, dated 24.03.2000 is marked and annexed herewith as **ANNEXURE-1**.



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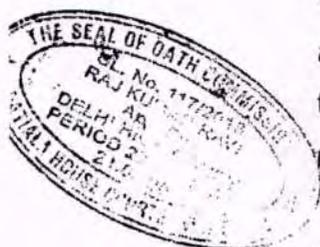
7. That accordingly, the MoD, vide letter No.13015/2/D(Lands)/2000, dated 02.05.2000 issued 'No Objection Certificate' for acquisition of Defence Land in Bungalows No. 1, 2, 3 & 4 at Kingsway Camp held on lease, for the Delhi MRTS project, as requested by Delhi Metro Rail Corporation. The aforesaid 'No Objection Certificate' in relation to the acquisition of four Bungalows was granted by the MoD subject to the apportionment of the compensation awarded under the provisions of the Land Acquisition Act and Rules made there under for the rights held by the MoD as lessor of the Bungalows. The true copy of the letter No.13015/2/D(Lands)/2000, dated 02.05.2000 is marked and annexed herewith as **ANNEXURE-2**.
8. That the Land & Building Department of GNCTD issued notification No. F.7(26)/2000/L&B/LA/MRTS/13537 dated 15.12.2000, under the provision of Section 4(1) and Section 17(1) of Land Acquisition Act, 1894 for acquisition of the property of Ministry of Defence i.e. Bungalows No. 1, 3 and 4 only. The true copy of the notification No. F.7(26)/2000/L&B/LA/MRTS/13537 dated 15.12.2000 is marked and annexed herewith as **ANNEXURE-3**.
9. That, thereafter, another notification i.e., No. F7(26)/2000/L&B/LA/MRTS/16126 under Section 6 of Land Acquisition Act 1894 in respect of the land notified under Section 4 of the same Act was issued on 14.02.2001 by the GNCTD, notifying that the lands as stated in the notification dated 15.12.2000 are required to be taken by the Government of National Capital territory of Delhi and that the lease hold rights of the land in the locality is acquired for the purpose. The true copy of the notification No. F7(26)/2000/L&B/LA/MRTS/16126 dated 14.02.2001 is marked and annexed herewith as **ANNEXURE-4**.



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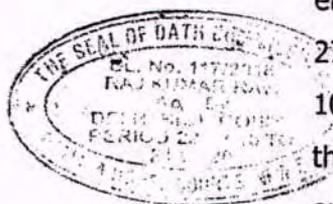
10. It is most respectfully stated that in both the notifications i.e., Notification u/s 4 dated 15.12.2000 and Notification u/s 6 dated 14.02.2001 of the Land Acquisition Act, 1894, it is clearly mentioned that the "land was to be acquired at the public expenses for a public purpose namely for MASS RAPID TRANSPORT SYSTEM (MRTS)".
11. That after the above notifications, the Land Acquisition Collector (North)/ADM announced the Award No.7/DC/N/2001-02, dated 06.09.2001, awarding the apportionment of the compensation between the Lessor and the lessees in the ratio of 40:60 on the market value of acquired land. The True copy of the award No. No.7/DC/N/2001-02, dated 06.09.2001 is marked and annexed herewith as **ANNEXURE-5**.
12. That on being unsatisfied with the apportionment of the compensation awarded by the LAC, the lessees filed the cases under Section 30 and 31 of Land Acquisition Act, 1894 before the Ld. ADJ Court. The Ld. ADJ vide Orders dated 29.07.2002 in LAC No.02/2002, 03/2002, 05/2002, 06/2002, Order dated 5.10.2002 in LAC No.07/2002, Order dated 28.07.2006 in LAC No.86/2002 and Order dated 28.03.2007 in LAC No.89/2009 disposed off all the cases and passed the Orders in favour of Lessees and against the Lessor (Ministry of Defence) and modified the award of LAC by awarding 100% compensation to the lessee. The court further decreed that only capitalized value for 20 years of lease rent @ Rs.12/- per annum amounting to Rs.240/- was payable to Union of India. The true copy of order dated 28.07.2006 in LAC No. 86/2002 is marked and annexed herewith as **ANNEXURE-6**.
13. That the MoD, filed Revised first appeal being RFA No. 305/2007 and Land Acquisition Appeal being LA Appeal No. 305/2007 before the Hon'ble High Court of Delhi on being



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aggrieved with the orders passed by the Ld. ADJ dated 29.07.2002 in LAC No.02/2002, 03/2002, 05/2002, 06/2002, Order dated 5.10.2002 in LAC No. 07/2002, Order dated 28.07.2006 in LAC No.86/2002 and Order dated 28.03.2007 in LAC No.89. The Hon'ble High Court allowed the appeals vide order dated 04.01.2013 and 11.02.2013 and set aside the Orders of the Ld. ADJ and held that the appellant, i.e., Union of India shall get 25% of compensation awarded and rest of the 75% compensation shall go to the respondents/Lessees. The true copies of the Orders dated 04.01.2013 and 11.02.2013 passed by the Hon'ble High Court of Delhi are enclosed as **ANNEXURE - 7 and 8.**

14. That the Ex-lessees, on being aggrieved by the orders of the Hon'ble High Court, moved the Hon'ble Supreme Court by filling a Special Leave Petition No. 14357 of 2013 titled as "Adil Singh Vs. Union of India & Ors." whereby The Hon'ble Apex Court in its order dated 17.11.2015 upheld the orders passed by the Hon'ble High Court in RFA No. 305/2007. The True copy of the order of the Hon'ble Apex Court is annexed herewith as **ANNEXURE-9.**
15. That the compensation as allowed by the Hon'ble High Court is still outstanding with Land Acquisition Collector as the same has not been paid to the Union of India/MoD as per the entitlement. The present respondent wrote letters dated 27.02.2012, 17.06.2016, 24.01.2017, 24.04.2018 and 10.08.2018 to ADM cum LAC (North) requesting to release the compensation awarded along with interest as per the orders of the Hon'ble High Court of Delhi but were of no avail. The true copy of the letters dated 27.02.2012, 17.06.2016, 24.01.2017, 24.04.2018 and 10.08.2018 addressed to ADM cum LAC (North) written by the present Respondent for payment of compensation are annexed herewith as **ANNEXURE-10.**



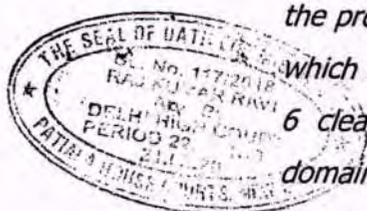
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16. It is most respectfully submitted that as the acquisition of the land was made for "Public Purpose" i.e. "Mass Rapid Transport System" for Delhi Metro Rail Corporation by the Govt. of NCTD, the act of sub-leasing of the acquired property to a private builder appears *prima facie* put into non-public purpose. The Answering Respondent places his reliance on the decisions of the Hon'ble Supreme Court passed in the following cases to establish the same:

The Hon'ble Supreme Court in *Royal Orchid Hotels v G. Jayaram Reddy* [(2011) 10 SCC 608] held as follows:-

"38. The Courts have repeatedly held that in exercise of its power of eminent domain, the State can compulsorily acquire land of the private persons but this proposition cannot be over-stretched to legitimize a patently illegal and fraudulent exercise undertaken for depriving the landowners of their constitutional right to property with a view to favour private persons. It needs no emphasis that if land is to be acquired for a company, the State Government and the company is bound to comply with the mandate of the provision contained in Part VII of the Act. Therefore, the Corporation did not have the jurisdiction to transfer the land acquired for a public purpose to the companies and thereby allow them to bypass the provision of Part VII. The diversification of the purpose for which land was acquired under Section 4(1) read with Section 6 clearly amounted to a fraud on the power of eminent domain. This is precisely what the High Court has held in the judgment under appeal and we do not find any valid ground to interfere with the same more so because in *Annaiah and Others V. State of Karnataka and others (supra)*, the High Court had quashed the notifications issued under Section 4(1) and 6 in their entirety and that judgment has become final."

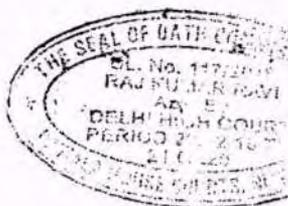


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Recently, the Hon'ble Supreme Court in Uddar Gagan Properties Ltd V. Sant Singh [(2016) 11 SCC 378] has held as follows:-

"30. Land is scarce natural resource. Owner of land has guarantee against being deprived of his rights except under a valid law for compelling needs of the society and not otherwise. The commercial use of land can certainly be rewarding to an individual. Initiation of acquisition for public purpose may deprive the owner of valuable land but it cannot permit another person who may be able to get permission to develop colony to take over the said land. If the law allows the State to take land for housing needs, the State itself has to keep the title or dispose of land consistent with Article 14 after completion of acquisition. If after initiation of acquisition, process is not to be completed; land must revert back to owner on the date of Section 4 notification and not to anyone else directly or indirectly. This is not what has happened."

17. It is most respectfully submitted in view of the above narrated facts, that it is evidently clear that the Defence land was acquired by the DMRC only for public purpose i.e. for MRTS project. Therefore, the commercial use of the above land by DMRC by leasing out the same to Private Builders for construction of high rise buildings amounts to putting acquired property partially into non-public purpose. The change of purpose allowed by the state Govt. can therefore be construed as allowing the premises to be used for non-public purpose. Therefore, the present appeal may kindly be disposed with appropriate orders as deemed fit and proper in the interest of justice.



P. M. N.

DEPONENT
 रक्षा संपदा अधिकारी
 दिल्ली मंडल, दिल्ली छावनी
 Defence Estates Officer
 Delhi Circle, Delhi Cantt

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VERIFICATION

Verified at New Delhi, on this the 28 JAN 2019 day of _____
(month), 2018. That the contents of the above Affidavit are true and
correct to my knowledge. No part of it is false and nothing material
has been concealed therefrom.

pr

I identify the deponent who
has signed in my presence



DEPONENT

दिल्ली मंडल, दिल्ली छावनी
Defence Estates Officer
Delhi Circle, Delhi Cantt

Through:

(Handwritten signature of Ardhendumauli Kumar Prasad)

(ARDHENDUMAU LI KUMAR PRASAD)

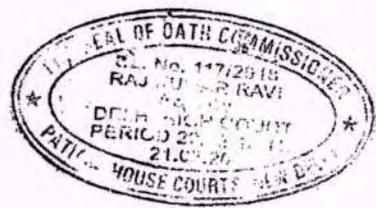
PLACE: NEW DELHI
DATE: .01.2019

ADVOCATE

CERTIFIED THAT THE DEPONENT
Shri/Smt. Ardhendumauli Kumar Prasad
S/o, W/o, D/o, Defence Estate Office
R/o M. n. d. Delhi
Identified by Shri/Smt. Ardhendumauli Kumar Prasad
has solemnly affirmed before me at Delhi
on 28 day of Jan 2019 that the contents of the above Affidavit have
been read & explained to him/her and are correct to his knowledge.

Oath Commissioner
New Delhi

28 JAN 2019



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Amended 1

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Most Immediate

Ministry of Defence
D(Lands)Subject: Transfer of Defence land for Delhi MRTS
project.Reference DGDE ID note No. 735/15/L/DE/95
dated 24.01.2000, on the above subject.

2. The case has been considered in the Ministry and it has been decided to give the NOC of Ministry of Defence for acquisition of the Defence land in four bungalows, as indicated in draft note sent by DGDE vide their ID note dated 24.01.2000, under the Land Acquisition Act by the Delhi Govt for the above project, inter-alia, on the condition that Land Acquisition Officer would apportion the compensation between the Ministry of Defence and lease holders under the relevant provisions of the Act/Rules.

3. Suitable draft Govt letter in this regard may be sent to the Ministry urgently.

Pathak
(A K Pathak)
Deputy Secretary(Works)

Shri R.R Pillai,
Sr Addl DGDE

MoD ID No. 203/DO(S)/D(Lands)/97 dated 24.03.2000

95-A

urgent

DDA (D)

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3/2000

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①

28.3.2000

149/PO/SB

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Approved
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Ministry of Defence
New Delhi

Dated the 2nd April 1951

The Government of India
Ministry of Defence
New Delhi

Subject: Grant of No-Objection Certificate for
Acquisition of Bungalows Nos. 1, 2, 3 & 4,
Kingsway Camp, Delhi (M.O.S. Subject)

For the acquisition of the following bungalows held on lease from the Ministry of Defence
the extent mentioned against each case, under the provisions of the Land Acquisition Act, 1948
(Act No. 1 of 1948) and the Delhi Municipal Corporation Act, 1947 (Act No. 1 of 1947)

| | |
|--|--------------|
| 1. Bungalow No. 1, Kingsway Camp, Delhi (M.O.S. Subject) | 2.87 acares |
| 2. Bungalow No. 2, Kingsway Camp, Delhi (M.O.S. Subject) | 1.150 acares |
| 3. Bungalow No. 3, Kingsway Camp, Delhi (M.O.S. Subject) | 0.60 acares |
| 4. Bungalow No. 4, Kingsway Camp, Delhi (M.O.S. Subject) | 0.60 acares |

1088 (50)

Bungalow No.4, Chitra Marg
Kingsway Camp, held on Lease
Form B of Cant. Code 1899
1842 sq. metres
(Delhi Bungalow)

That No Objection of Ministry of Defence is granted subject to the appointment of
the compensation awarded under the provisions of the Land Acquisition Act and
also made the tender for the rights held by the Ministry of Defence is part of
the Budget.

It is issued with the concurrence of Ministry of Defence (Finance Division) vide
No. 100/M/2/W/2000-1, dated 18/12/00.

Yours faithfully,

Sd/-

(Lalit Chauhan)

Under Secretary to the Government of India

Min. of Defence (Fin. Division-1), Rashtrapati Bhawan, New Delhi

CGDA, West Block V, R. C. Puram, New Delhi

CGADS, I-II Block, B-1, Connaught Place, New Delhi

AMIS, Western Command

CGDA, Western Command

CGDA's Branch/BL (West-1/11), New Delhi

The DBO, Delhi Circle

Delhi Metro Rail Corporation Ltd (DMRC), Connaught Place, New Delhi

New Delhi-110005

06

GOVERNMENT OF THE NATIONAL CAPITAL TERRITORY OF DELHI
LAND & BUILDING DEPARTMENT : VIKAS BHAWAN : NEW DELHI

No. F. 7(26)/2000/L&B/LA/PARTS | 13535

Dated :- 15.12.2000

NOTIFICATION

Whereas it appears to the Lt. Governor, Delhi that land is likely to be required to be taken by Government at the public expense for a public purpose namely for MASS RAPID TRANSIT SYSTEM (MRTS) It is hereby notified that the lease hold rights of land in the locality described below is likely to be acquired for the above purpose.

The notification is made, under the provisions of Sub-section 1 of Section 4 of the Land Acquisition Act, 1894, to all whom it may concern.

In exercise of the powers conferred by the aforesaid section, the Lt. Governor, Delhi is pleased to authorise the officers for the time being engaged in the undertaking with their servants and workmen to enter upon and survey the land in the locality and do all other acts required or permitted by that section

The Lt. Governor, Delhi is satisfied also that provisions of sub-section (1) of the section 17 of the said Act are applicable to this land and is further pleased under sub-section (4) of the said section to direct that all the provisions of Section 5(A) shall not apply

SPECIFICATION

| Village | Kh. No. | MCD No / Property No. | Total Area (SQ. M) |
|---------------|---------|--|--------------------|
| Civil Station | 203 min | Covering : A. Banglow No. 4, Chhatra Marg, Mall Road, Delhi | 18421.00 |
| | | B. Banglow No. 1, Cavelary Lane, Mall Road, Delhi. | 11331.10 |
| | | C. Banglow No. 3 Cavelary Lane, Mall Road, Delhi | 760.00 |
| | | Total | 30512.16 |

Contd 2

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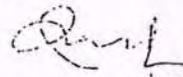
The land being nazul land (Defence land) is leased out as follows:-

1. Banglow No. 1 (Old No. 3) Kingsway Camp, Delhi leased out to Sh. Wazi Chand Mehra, Sh. Pramod Mehra & Sh. Chaman Lal Mehra (*) on Form 'B' Cantt. Code lease 1899.
2. Banglow No. 3, Cavilary Lines/Kingsway Camp, Delhi, leased out to M/S Basti Sugar Mill through Dr. Devraj Narang on Schedule - X Perpetuity.
3. Banglow No. 4, 30 Chitra Marg, Kingsway Camp, Delhi, leased out to S/Sh. Ved Prakash Gupta, R.C. Khanna & Sanjay Khanna on Form 'B' Cantt. Code lease 1899.

(*) Note: Sh. Wazir Chand Mehra sold his portion out of his leased property Banglow No. 1 to S/Sh. S.K. Malik, V.K. Malik, A.K. Malik & Smt. Kanta Khanna, Smt. Arti Khanna and Sh. Sanjay Khanna. Registered Sale deeds of these persons are available in the records of Defence Estates Officer, Delhi Circle, Delhi Cantt. and the case for mutation in respect of these persons is in process.

The names of the lessees and the terms of which the property is held, as mentioned above, is as per the information furnished by Defence Estate Officer, Delhi Circle, Delhi Cantt., forwarded by the Addl. Director (Tpt) vide communication No. MRTS/96/Tpt./97 dt. 7.9.2000]

By order and in the name of
the Lt. Governor of NCT of
Delhi.


(J. K. RAWAL)
DY. SECRETARY (LA)

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~~Amended~~
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**GOVERNMENT OF THE NATIONAL CAPITAL TERRITORY OF DELHI
LAND & BUILDING DEPARTMENT : VIKAS BHAWAN : NEW DELHI**

No. F. 7(26)/2000/L&B/LA/17175/ 16121

Dated :- 16.12.2001

NOTIFICATION

Whereas the U. Government, Delhi is notified that land is required to be taken by Government at the public expense for a public purpose, namely for MASS RAPID TRANSIT SYSTEM (MRTS). It is hereby notified that the lease hold rights of the land in the locality described below is acquired for the above purpose.

This declaration is made under the provisions of Section 6 of the Land Acquisition Act, 1894, in respect of the land notified U/s 4 of L.A. Act, 1894 vide Notification No.F.7(26)/2000/L&B/LA/13537 dt.15.12.2000 to all whom it may concern. Under the provisions of Section 7 of the said Act, the Land Acquisition Collector(North), Delhi is hereby directed to take orders for the acquisition of the said land.

A plan of the land may be inspected at the office of the Land Acquisition Collector (North), Delhi.

SPECIFICATION

| Village | Kh. No. | MCD No./ Property No | Total Area (SQ. M.) |
|---------------|---------------|--|---------------------|
| Civil Station | 201 min | Covering A Banglow No. 4, Chhatra Marg, Mall Road, Delhi | 18421.00 |
| | 810/205.2 min | B. Banglow No. 1, Cavelay Lane, Mall Road, Delhi | 11331.16 |
| | | C. Banglow No. 2, Cavelay Lane, Mall Road, Delhi | 760.00 |
| | | Total | 30512.16 |

Contd. 2

6/18 DC (N)
15/12/2001
128/LA/N
19/12/01
ADP(N)
ADP(N)
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[The land being nauzal land (Defence land) is leased out as follows:-

1. Banglow No. 1 (Old No. 3) Kingsway Camp, Delhi leased out to Sh. Wazir Chaudhary, Sh. Pramod Mehra & Sh. Chaman Lal Mehra (*) on Form 'B' Cantt. Code lease 1899
2. Banglow No. 3, Cavilary Lines/Kingsway Camp, Delhi, leased out to M/S. Basli Sugar Mill through Dr. Devraj Narang on Schedule - X Perpetuity
3. Banglow No. 4, 30 Chitra Marg, Kingsway Camp, Delhi, leased out to S/Sh. Ved Prakash Gupta, R.C. Khanna & Sanjay Khanna on Form 'B' Cantt. Code lease 1899

(*) Note: Sh. Wazir Chaud Mehra sold his portion out of his leased property Banglow No. 1 to S/Sh. S.K. Malik, V.K. Malik, A.K. Malik & Smt. Kanta Khanna, Smt. An Khanna and Sh. Sanjay Khauna. Registered Sale deeds of these persons are available in the records of Defence Estates Officer, Delhi Circle, Delhi Cantt. and the case for mutation in respect of these persons is in process.

The names of the lessees and the terms of which the property is held, as mentioned above, is as per the information furnished by Defence Estate Officer, Delhi Circle, Delhi Cantt., forwarded by the Addl. Director (Tpt) vide communication No. MRTS/95/Tpt./97 dt. 7.9.2000]

By order and in the name of
the Lt. Governor of NCT of
Delhi.



(J. K. RAWAL)
DY. SECRETARY (LA)

2004 (10)

AWARD NO: 7/2001/2001-2002

NAME OF VILLAGE/AREA : CIVIL STATION/MALL ROAD
(CIVIL LINES-AREA)

NATURE OF AWARD : PERMANENT

PURPOSE OF ACQUISITION : MASS RAPID TRANSIT SYSTEM

A notification for acquisition of Land at Cavalary Lane & Chhatra Marg, on Mall Road of Civil Lines area was notified U/s 4 of the Land Acquisition Act, 1894 vide Notification No. F.7(26)/2000/L&B/LA/13537 dt. 15.12.2000 for construction of Mass Rapid Transit System. The declaration Under Section 6 of the Land Acquisition Act, 1894 was issued vide Notification No F.7(26)/2000/L&B/LA/MRTS/16126 dated 14.2.2001.

The specifications of Land notified for acquisition are as under:-

SPECIFICATIONS

| Village | Khasra No. | MCD No./Property No. | Total Area (Sq.Metre) |
|---------------|---------------|---|-----------------------|
| Civil Station | 203 Min | Covering: A Bunglow No.4, Chhatra Marg, Mall Road, Delhi | 18421.00 |
| | 810/205/2 Min | B Bunglow No.1, Cavalary Lane Mall Road, Delhi | 11331.16 |
| | | C Bunglow No.3, Cavalary Lane, Mall Road, Delhi | 760.00 |
| Total : | | | 30512.16 |

Wide publicity of the declaration under section 6, LA Act was given through major dailies in Delhi in English & Hindi languages. Declaration u/s 6 of the LA Act was published in the Hindustan Times(English) on 7.3.2001 and in the Nav Bharat Times (Hindi) on 7.3.2001. Notification u/s 17 of the Land Acquisition Act, 1894 was issued vide Notification No. F.7(26)/2000/L&B/LA/MRTS/16127 dt. 14.2.2001.

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The Land being nazul Land (Defence Land) was leased out as follows:-

1. Bungalow No.1 (Old No.3 of Kingsway Camp) now Cavalary Lane, Mall Road, was leased out to Sh. Wazir Chand Mehra, Sh. Pramod Mehra and Sh. Chaman Lal Mehra on Form 'B' Cantonment Code, 1899. It was further intimated by the lessor i.e. Delhi Cantonment that Sh. Wazir Chand Mehra sold his portion out of his leased property Bungalow No.1 to Sh. S.K. Malik, V.K. Malik, A.K. Malik & Smt. Kanta Khanna, Arti Khanna and Sh. Sanjay Khanna.
2. Bungalow No.3, Cavalary Lane, leased out to M/s Basti Sugai Mill through Dr. Devraj Narang on Schedule - X on perpetuity, by the Delhi Cantonment as lessor.
3. Bungalow No.4, 30 Chhatra Marg, leased out to Sh. Ved Prakash Gupta, R. C. Khanna & Sanjay Khanna on Form 'B' Cantonment Code, 1899.

Since the notification was issued u/s 17 of the LA Act, which is the urgency clause, the provision of Section 5A of the Land Acquisition Act for inviting objections and making report to the Government, was dispensed with.

Notices u/s 9 & 10 of the LA Act were issued and served on the interested persons as per the record. The claims from the interested persons were received and considered while making this award u/s 11 of the Act. The details of the claims received are discussed under the heading 'Claims & Evidences'.

This acquisition involves land and structures appurtenant thereto. The structures were got evaluated by Govt. approved valuers and were vetted by the Public Works Department of Govt. of NCT of Delhi and submitted by Delhi Metro Rail Corporation. The Mass Rapid Transit System Project, for which the land is being acquired is being executed by Delhi Metro Rail Corporation.

MEASUREMENT & TRUE AREA

According to the notification u/s 4 and declaration u/s 6 of the Land Acquisition Act, 1894 there was no dispute between the land notified as 30512.16 Sq.Mtr. and the area as measured and available on site. The areas of Bungalow No.1, Cavalary Lane & Bungalow No.4, Chhatra Marg have been under possession of several persons and the details have been summarised as under in Table No.1

TABLE NO. 1

| Bungalow No. | Name of the lessee/Occupants | Area under possession (Sq.Mtr.) | Total area (Sq.Mtr.) |
|-----------------------------|---|---|----------------------|
| 1, Cavalary Lane, Mall Road | a) Promod Mehra b) Chaman Lal Mehra c) S.K.Malik, V.K. Malik, A.K. Malik d) Kanta Khanna, Arti Khanna, Sanjay Khanna | 3851.00 3575.40 386.00 3518.76 | 11331.16 |
| 3, Cavalary Lane, Mall Road | a) M/s Basti Sugar Mill | 760.00 | 760.00 |
| 4, Chhatra Marg, Mall Road | a) Ved Prakash Gupta b) R.C. Khanna & Sanjay Khanna | 8913.06 9507.94 in equal share | 18421.00 |

CLAIMS & EVIDENCES

In response to the notices u/s 9 & 10 of the L.A Act, 9 interested persons have filed their claims as detailed below:-

TABLE NO: 2

| S.No | Property No. | Name of the Claimant | Details of the claims and Evidences |
|------|------------------|---|--|
| 1 | 1, Cavalary Lane | Promod Mehra Through Sh. Krishan Lal Kapoor as special attorney. | 1. Market value of land @ Rs.1,00,000/- per sq. m. 2. Rs. 1,50,000/- per month towards hiring alternative place of business. 3. Rs. 2,50,000/- for trees 4. Rs. 45,00,000/- for structures 5. Copy of lease-deed from lessor i.e. Delhi Cantonment. 6. Copy of perpetual lease by DDA for 133.78 Sq. m. of Plot in Kingsway Camp. 7. Copy of Sale deed No 283 Book No. 1 on pages 132-154 dt 25.2.99 |

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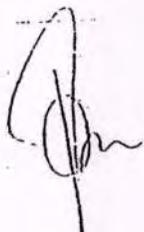
| S.No | Property No. | Name of the Claimant | Details of the claims and Evidences |
|------|------------------|--|---|
| 2. | 1, Cavalary Lane | Chaman Lal Mehra , | <ol style="list-style-type: none"> 1. Market value of land @ 1,00,000/- per Sq. metre. 2. Rs. 1,50,000/- per month towards hiring alternative Place of business. 3. Rs. 1,00,000/- for the trees. 4. Rs.60,00,000/- for structures. 5. Copy of lease deed from lessor i.e. Delhi Cantonment. 6. Copy of perpetual lease by DDA for 133.78 Sq.m. of Plot in Kingsway Camp. 7. Copy of Sale deed No.283 Book No.1 on pages 132-154, dt. 25.2.99. |
| 3. | 1, Cavalary Lane | Kanta Khanna Arti Khanna Sanjay Khanna | <ol style="list-style-type: none"> 1. Market value of land @ Rs.1,00,000/- per Sq.metre. 2. Copy of perpetual lease deed by DDA for 133.78 Sq.metres in Kingsway Camp Area. 3. Copy of Sale Deed No.282 Book No.1, Volume No.39, on page 113-131, dt. 25.2.1999. 4. Valuation Report for structure for compensation upto Rs. 37,85,05,000/- 5. Extracts from Military Land Register. |
| | 1, Cavalary Lane | V.K. Malik, S K Malik, A K Malik | <ol style="list-style-type: none"> 1. Market value of land @ Rs.1,00,000/- per sq. m. 2. Rs. 1,50,000/- per month towards hiring alternative place of business. 3. Rs. 2,50,000/- for trees. 4. Rs. 45,00,000/- for structures. 5. Copy of lease-deed from lessor i.e. Delhi Cantonment. 6. Copy of perpetual lease by DDA for 133.78 Sq. m of Plot in Kingsway Camp. 7. Copy of Sale Deed No.283, Book No.1, on pages 132-154, dt. 25.2.99. |

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| Sl. No | Property No. | Name of the Claimant | Details of the claims and Evidences |
|--------|------------------|--|--|
| 5. | 3, Cavalary Lane | Basti Sugar Mills, (through its Secretary Sh. Moliinder Paul | <ol style="list-style-type: none"> 1. Copy of lease deed on Schedule X (perpetuity) 2. Market Value of land @ Rs.60,000/- per sq.mtr. 3. Cost of structure at Rs. 4,71,48,000/- 4. Evaluation Report. |
| 6. | 4, Chhatra Marg | Ved Prakash Gupta | <ol style="list-style-type: none"> 1. Market Value of Land @ 1,00,000/- per Sq.metre. 2. Compensation @ Rs. 1,50,000/- per month towards hiring. Alternative Place for business. 3. Rs. 80,00,000/- towards super-structure. 4. Rs.2,25,000/- towards trees. 5. Copies of lease-deeds. 6. Copy of Valuation Report. |
| 7. | 4, Chhatra Marg | R.C. Khanna through Sh. Purushottam Dhir as P.O.A | <ol style="list-style-type: none"> 1. Claim for 51179.5 Sq.ft. @ Rs.1,00,000/- per Sq.Mtr. 2. Cost of land & building - Rs.47,78,06,445/- 3. Add potential market value towards Commercial potential - Rs.47,56,50,000/- 4. Discomfort & dispossession factor @ 20% Rs.19,06,91,289/- |
| 8. | - do - | Sanjay Khanna | <ol style="list-style-type: none"> 1. Claim for 51179.5 Sq.ft. @ Rs.1,00,000/- per Sq.Mtr 2. Cost of land and buildings Rs. 48,27,42,520/- 3. Add potential market value towards Commercial potential - Rs.47,56,45,000/- 4. Discomfort & dispossession factor - Rs 19,16,77,504/- 5. Valuation Report. 6. Expense Vouchers spent on renovation. |



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| S.No | Property No. | Name of the Claimant | Details of the claims and Evidences |
|------|---------------------------------------|---|---|
| 9. | 1 & 3, Cavalary Lane & 4 Chhatra Marg | Delhi Contemnt through Defence Estate Officer | <ol style="list-style-type: none"> 1. Copies of lease deed in respect of Bunglow No. 1, 3 & 4 2. Copies of Military Land Register showing Mutations regarding transfer of lease-hold rights. 3. Rs. 7623/- per Sq Metre for residential use and Rs. 15,930/- per Sq.Metre for Commercial Land use. |

On perusal of the claims filed by the interested persons, it is noted that most of the interested persons have claimed market value of land at a rate of Rs.1,00,000/- per Sq.Metre. But the claimants 1 to 8 have not furnished any documentary evidence like registered Sale deeds of similar lands anywhere nearer to the claimed market value. It is further observed that the claims are not only exorbitantly high, but also not supported with facts. Such claims are held to be unfounded, hence rejected. But the claimants have filed copies of registered sale deeds of sales of similar lands which have been taken into account after verification and considered while arriving at the correct market value of land.

Similarly, the claim towards cost of structures have been very high and not supported by reliable evidence. These were not evaluated by credible Govt. approved valuers, hence were not accepted to be the basis for arriving at the compensation towards structures. The claims towards other items like; hiring cost of alternative Place of business furnished by the claimants are not supported by documentary evidences. Similarly, the claim towards discomfort and dispossession factors are not supported by any scientific basis on which such calculations were deduced.

MARKET VALUE:

The market value of the land under acquisition is to be determined with reference to the date of notification u/s 4 of the Land Acquisition Act, 1894 which is 15.12.2000 in this case. For determination of the Market Value of the land under acquisition, its current



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land-use, potentiality of future land-use, proximity of the land to the nearby developed areas and existing facilities, have been taken into consideration as required u/s 23(1) of the LA Act.

Current Land-use and existing facilities:- At present on the land under acquisition, huge bungalows have been constructed, which have been put mainly for residential proposes. These bungalows have huge lawns and trees, open spaces and parking areas around the structures and are served by well connected roads. The Bungalows are located right on the side of Mall Road, the main arterial road of North-Delhi.

Proximity to nearby developed areas and facilities :- The land under the present acquisition is surrounded by huge, well developed residential bungalows on all sides. The Bungalows under acquisition are in the immediate vicinity of the Prestigious Delhi University. The locality has been developed and urbanised over a long period. Further, the land is also in close- proximity to the tree-lined, posh Civil Lines Area. The Delhi Vidhan Sabha is only 500 metres away. The Raj Niwas, other offices Govt. of Delhi and Tis Hazari Courts are also within a few kilometres from the land. Commercial centres like; Kamala Nagar Market, Kingsway Camp, Model Town Market, Kashmere Gate and Old-Delhi Markets are also near-by. The Inter State Bus Terminus of Delhi situated close to the area in the hub of transport facilities for the entire National Capital Region and other neighbouring states. The area is very close to the Northern Part of the Ridge in Delhi, which provides adequate greenery to the locality.

Keeping the above facts in mind, two methods of valuation of land under acquisition were followed. In one method, the schedule of rates circulated by Department of Urban Development, Ministry of Urban Affairs & Employment vide letter No J-22011/4/95-LD dt 16.4.99, was referred. It was noted that indicative prices of land for such area was given at Rs.6930/- per Sq metre for residential use and Rs. 13,860/- per Sq metre for commercial use, but these rates are applicable till March 2000. These indicative schedule of market rates have not been revised, for post March 2000 period, making the method inherently deficient.

In another method of valuation, the price paid within a reasonable time-frame in bonafide transactions of purchase of similar lands possessing similar advantages has been followed. So the certified registered sale deeds of sales of similar lands in the adjacent areas of Civil Lines and Kingsway Camp were got collected to estimate the market value, the requirement being always to arrive as near as possible to the correct market value. The details of sales transactions of similar lands have been summarised as under -

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Table.No.- 3

| S.No. | Identification of Regd. Sale Deed or other document | Locality | Area | Total Transaction Value in Rs. | Rate in Rs. |
|-------|--|---|--------------------------------------|--------------------------------|-------------------------|
| 1. | No.11719, Addl. Book No.1 Volume No.7257 Page No.165 to 200 Dated 15.12.95 | Civil Lines, Rajpur Road | 899.70 Sq Metre | 1,01,00,000/- | 11225/- per Sq mtr. |
| 2. | No.6856 Addl. Book No.1 Volume No.6906 Page No. 1 to 79 Dated 8.8.95 | Civil Lines, Attaur- Rehman Lane | 500Sq. Yards (418 Sq Metres) | 81,00,000/- | 19378/- per Sq. mtr. |
| 3. | No.283 Book No.1 Volume No.39 Page No. 132 - 154 Dated 25.2.99 | Civil Lines, | 370Sq. Yards (309.32 Sq.metre) | 40,60,000/- | 13126/- per Sq mtr. |
| 4. | No. 282 Book No.1 Volume No.39 Page No.113 - 131 Dated 25.2.99 | Civil Lines | 375.7 Sq Yards (314Sq.mtr.) | 41,00,000/- | 13057/- per Sq. mtr. |
| 5. | No. 870 Book No.1 Vol. No.455 on page 44-48 dt. 15.10.1997 | Kingsway Camp | 133.78 Sq m | 33,90,000/- | 25,340/- Per Sq.m. |
| 6. | No.590 Book No.1, Vol. No.275 On page 147-164 dt. 15.2.2001 | Civil Lines | 825 Sq Yards (689.7 Sq m) | 33,33,500/- | 4833/- per Sq m |

Most of these sales transaction except that at Sl No 5, constituted land and old structures appurtenant there-to. The average sales price of these sales transactions comes to Rs.11967/- per Sq mtr. But as the price includes the cost of structure along with land and the bungalows in these Sale instances are old, average of 20% to 15% (i.e. 17.5%)

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reduction was loaded on the average sales prices arrived as above to find the average transaction price of land component. Thus discounting the average sales prices of Rs.11967/- per Sq. metre by 17.5%; the market value of land component only was arrived at Rs.9900/- per Sq. metre.

By comparing the above two methods of valuation and in view of the factors discussed under the headings, current land use, existing facilities and proximity to nearby developed areas; the market value arrived at on the basis of bonafide transactions of similar lands over a 5 year period was found more appropriate, which is in the interest of affected persons, whose lands/interests are being compulsorily acquired. Hence the market value of the land component only is awarded as Rs 9900/- per Sq. metre.

Other Benefits -

- (A) Additional benefits u/s 23(1A) of the Land Acquisition Act :- Over and above the compensation as market value, the rightful claims are entitled to additional benefits @ 12% per annum for a period from date of notification u/s 4 i.e. 15.12.2000 till the date of making the award i.e. 6.9.2001 (for 265 days).
- (B) Solatium :- The rightful claimants are also entitled to solatium of 30% over the compensation for land arrived on market value u/s 23(2) of the Land Acquisition Act.
- (C) Compensation towards structure - A number of Bungalows have been constructed after the leases which have become quite old. Recently some new constructions have also come up particularly in the portions under the occupation of Sh. Sajay Khanna and Sh. A.K. Malik, Sh. S.K. Malik and Sh. V.K. Malik in Property No.1, Cavalry Lane and by Sanjay Khanna in 4, Chhatra Marg. All the structures existing on the land being acquired have been evaluated by Govt. approved valuer. The valuation reports were vetted by the Public Works Department of Govt. of N.C.T. of Delhi and submitted by Delhi Metro Rail Corporation for consideration. It was intimated by the Delhi Cantonment as the lessor that the lessee have carried out unauthorised constructions without getting those approved from the Defence Estate Officer. It was further intimated that Defence Estate Officer of Delhi Cantonment has issued notices during 1994 and 1999 regarding unauthorised constructions carried out by the lessees. It was also intimated by Delhi Metro Rail Corporation that the requisite no objection certificate regarding the constructions carried out in 1999 have not been issued by the D.M.R.C. On the other hand the occupants/lessees have stated that they have carried out these constructions after obtaining due approval. By looking at the documents on record it is noted that the constructions carried out in 1994 and 1999 are unauthorised. Hence, no compensation is awarded against these constructions. The evaluation reports were scrutinized and it was found that all the constructions

whether old and new have been evaluated by the valuer. In the valuation reports the estimation of the old and new constructions have been segregated and different depreciation rates have been applied to arrived at present market value of the structures. As the new constructions are unauthorised, the corresponding values as arrived in the valuation reports are not awarded. Whereas against old constructions, which have been evaluated separately, the corresponding values as arrived in the valuation reports are allowed to the rightful claimants for authorised structures only. The summary of the values awarded and not allowed under the occupation of each claimant have summarized as under in Table No.4.

TABLE NO.4

| Sl No | Bungalow No. | Name of the Occupant/claimant | Value of structure under occupation as per report in Rs. | Value of structure (authorised) Awarded/Allowed in Rs. |
|--------|-----------------|--|---|--|
| 1. | 1, Cavalry Lane | Chaman Lal Mehra | 7,42,348 | 7,42,348 |
| 2. | 1, Cavalry Lane | Pramod Mehra | 6,17,800 | 6,17,800 |
| 3. | 1, Cavalry Lane | Sanjay Khanna Kanta Khanna Arti Khanna | Old Construction 4,51,569 New Construction 41,01,834 | 4,51,569 NIL |
| 4. | 1, Cavalry Lane | A.K. Malik S.K. Malik V.K. Malik | New Construction 16,72,693 | NIL |
| 5. | 3, Cavalry Lane | Basti Sugar Mills | 646,984 | 3,30,319 |
| 6. | 4, Chhatra Marg | Ved Prakash Gupta | 12,75,700 | 12,75,700 |
| 7. | 4, Chhatra Marg | R.C. Khanna | 2,21,300 | 2,21,300 |
| 8. | 4, Chhatra Marg | Sanjay Khanna | 13,29,100 | 11,92,726 |
| TOTAL: | | | 1,10,59,328 | 48,31,762 |

- (D) Compensation towards trees - The trees standing on the land under acquisition were counted. These trees can be used for fire-wood purpose only. The small trees are taken at 2.5 quintals & big trees at 5 quintals weight approximately. The average market price of fire-wood is assessed as Rs 200/- per Quintal. Thus the compensation are assessed at Rs 500/- per small tree for 50 small trees and at Rs 1000/- per big tree for 174 big

trees. The details of trees standing on the land under possession of respective interested person/claimant is given as under Table No.5.

TABLE No.5

| Sl.No. | Property No. | Name of the Occupants | No. of trees on land under possession | | |
|--------|------------------|--|---------------------------------------|-------|-------|
| | | | Big | small | Total |
| 1. | 4, Cavalary Lane | Sanjay Khanna Arti Khanna Kanta Khanna | 12 | 2 | 14 |
| 2. | 1, Cavalary Lane | C.L. Mehra | 42 | 14 | 56 |
| 3. | 1, Cavalary Lane | Pramod Mehra | 15 | 4 | 19 |
| 4. | 1, Cavalary Lane | S.K. Malik V.K. Malik A.K. Malik | 0 | 0 | 0 |
| 5. | 3, Cavalary Lane | Basti Sugar Mills | 7 | 5 | 12 |
| 6. | 4, Chhatra Marg | R.C. Khanna | 41 | 9 | 50 |
| 7. | 4, Chhatra Marg | Sanjay Khanna | 39 | 6 | 45 |
| 8. | 4, Chhatra Marg | Ved Prakash Gupta | 18 | 10 | 28 |
| | | Total | 174 | 50 | 224 |

(E) Interest - As the possession of the land has not been taken over yet, no interest on this account is allowed

APPORTIONMENT:

The land under reference belongs to the Delhi Cantonment, Ministry of Defence, Govt. of India, which has communicated the NOC for acquisition in respect of Bungalows No. 1, 3 and 4 Mall Road, Delhi for MRTS Project vide letter No. 1.1015/2/V(Lands)/2000 dt. 2.5.2000.

The occupants/claimants are the lessees of the Delhi Cantonment. The occupiers of Bungalow No. 3 are governed by the Perpetual lease as indicated in the Schedule X Rule 31(1), Building lease in perpetuity and those of Bungalows No. 1, Cavalary Lane & 4 Chhatra Marg, lease on Form B, Section 259 of cantonment Code 1899 is applicable.

For the properties under acquisition, the lessees enjoy the right to hold the land for ever and they are also authorized to sale, gift, transfer, mortgage or exchange of interest in respect of the property they are lessee with. These conditions in the lease document, as supplied by Ministry of Defence are reproduced as below:-

Condition No. XXV

Condition XXV says "so long as the lessee, his heirs, executors, administrators, representatives or assigns shall (duly pay the said land of Rs. 12/- and) observe the conditions herein before specified and or his or their part to be observed, he or they may subject to condition XXVII, hold the land forever without interruption by the Secretary of State, his successors and assigns

Condition No. IV

- (i) Whenever the lessee intends to transfer by Sale, gift, mortgage or exchange his interest in the land or in the building erected on the land or in any part of the land or building, he or the intended transferee shall give cantonment magistrate one month notice in writing before the transfer has been completed
- (ii) The General officer of the command shall have power within the said property of one month and with the concurrence of the local Govt., to impose by order in writing his veto on any such transfer if in any case the cantonment authority considers it desirable that the said power of veto should be exercised, it should report the case to such General Officer without delay.
- (iii) If, notice of any such transfer has not given as aforesaid or if any such transfer is made after the same have been veto, the transfer shall be void

The status of lessee with regard to each property is as follows:-

Bungalow No.1, Cavalary Lane:

On 20th day of May 1906, the Secretary of State Govt. of India in Council (Secretary of State) executed lease on behalf of the Govt. under the Cantonment Code 1899 with the lessee Mr. J.C. Robert. The lease was regd. in the S.R. Office, Delhi on 2nd May 1906. Through condition No.IV (1) of the lease which allows lessee to go for transfer, gift, mortgage or exchange his interest etc., the property exchanged hands through Registered Sale Deeds and current lessees, as per the Defence records are Promod Mehra, Chaman Lal Mehra and Wazir Chand Mehra. Wazir Chand has further sold his rights through regd. Sale deed in respect of Mr. Sanjay Khanna, Smt. Kanta Khanna & Smt. Arti Khanna, & S.K. Malik, V.K. Malik, & A.K. Malik and their case for mutation is in process with Defence, as per the document furnished by Ministry of Defence. As Mr. Wazir Chand Mehra has not claimed to be the lessee, his entire rights by virtue of Sale deeds stand transferred in favour of Mr. Sanjay Khanna, Smt. Kanta Khanna, Smt. Arti Khanna & Sh. V.K. Malik, S.K. Malik & A K Malik.

Bungalow No.3, Cavalary Lane:

Sh. J.C. Robert lessee has sold all his rights title and interest in respect of the property to M/s Basti Sugar Mills through its Director Sh. Dev Raj Narang. Sale deed executed on 10.5.48. Doc. Regd. No 902 in Book No.1, Vol. - 2256 on page - 363-372 dt. 12.5.48

Bungalow No.4, Chhatra Marg:

Sh. J.C. Robert lessee has sold all his rights, title and interest in respect of the property to Sh. Ved Prakash Gupta S/o late Sh. Sunder Dass and Smt. Shanti Devi Khanna W/o late Sh. Rattan Chand Khanna, co-lessee vide Sale Deed executed on 3.5.46. Consequent upon demise of Smt. Shanti Devi Khanna and due to inheritance the rights & titles of lease transferred to the current lessee who are Sh. R.C. Khanna and Sh. Sanjay Khanna, as per the Defence record.

The Delhi Cantonment, lessor has pointed out certain unauthorised constructions carried out by the lessees in 1994 & 1999 but thereafter no action seems to have been taken under the condition/clause of the lease agreement as the lessees still hold the land rights, as per the record of the Defence Estate

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The documents available reveal that lessees are enjoying lease-hold rights in perpetuity and the occupants/lessees continue to hold the lease-hold rights over long periods.

It is well settled that where the land leased on perpetuity on a fixed rent is acquired under the Land Acquisition Act, the proportion of compensation is determined on the basis of value of interest between the lessor and lessee. In the present case the lessees are holding the Perpetual lease rights on a fixed rent of Rs. 12/- annum by virtue of Schedule X Rule 31(1), Building lease in perpetuity in the case of Bungalows No.3 & by Form B, Section 259 of Cantonment Code for Bungalow No.1 & 4.

The claimants/lessees have given references about the judgement of Bombay High Court-AIR 1979-Bombay, Kachru Lal Vs. Gurudwara Board wherein it was held that in the dispute between owner and permanent licencees/tenants regarding apportionment, the lessor's interest is to the extent of capitalization of rent for the last 20 years. The following judgements of Delhi High Court and Supreme Court on deciding the proportion of interests between the lessor and lessee in case of perpetual leases were referred :

- | | | |
|----|------------------------|---|
| 1. | (1994) 5 SCC 239 | - Inder Parshad Vs. Union of India. |
| 2. | AIR 1987 Delhi 151 | - Union of India Vs. Ajit Singh |
| 3. | (1996) 85CC 664 | - Mangat Ram Vs. State of Haryana |
| 4. | (1994) 4 SCC 523 | - Col. SIR Harinder Singh Brar Vs. Bihari Lal |
| 5. | AIR - 1997 - SC - 2669 | - <u>Ajit Singh</u> Vs. <u>Ajit Singh</u> |

As decided in the above judgements, the apportionment between the lessor and the lessee have been determined in the ratios of 25.75, 20:80 and 40:60 between the lessor and lessee depending on the terms and condition of the lease-hold agreements. As there is some variation between these apportionments on case to case basis, reliance is placed on the latest judgement of the Hon'ble Supreme Court, reported in AIR - 1997 - SC - 2669, in which the amount of compensation has been apportioned between the lessor and the lessee in the 40:60 ratio. Hence accordingly, the amount of compensation arrived at on the basis of market value of land, component only, be apportioned between the lessor and lessee in the ratio of 40:60. As per the records the structures have been built by the lessees on vacant land leased out by the lessor. So the lessees are entitled to the entire compensation amount assessed against the authorised structures under their respective possession. Similarly, the lessees are also entitled to the entire compensation allowed towards trees.

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SUMMARY OF THE AWARD

| <u>Items</u> | <u>Amount in Rs.</u> |
|---|----------------------|
| 1 Compensation towards market value of land measuring 30512.16 sq. metres @ 9900/- per sq. metre u/s 23(1) of the Act | 30,20,70,384/- |
| 2 Additional benefits @ 12% per annum for a period of 265 days over the market value of land u/s 23(1A) of the Act | 2,63,17,364/- |
| 3 Solatium @ 30% over the compensation for land u/s 23(2) of the Act | 9,06,21,115/- |
| 4 Compensation towards structures | 48,31,762/- |
| 5 Compensation towards 50 small trees @ 500/- and 174 big trees @ Rs. 1000/- | 1,99,000/- |
| Total | 42,40,39,625/- |

(Rupees Forty two crores, forty lakhs thirty nine thousand and six hundred and twenty five only)

This award is made u/s 11 of the Land Acquisition Act

(SUDHIR MAHAJAN)
LAND ACQUISITION COLLECTOR/ADM
DISTT NORTH

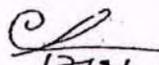
Award approved
by Secy (Land), Govt of Delhi
on 11/9/01.

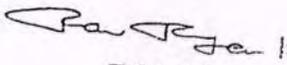
(Signature)
11/9/01

Award announced in the open court (Signature)
(3/9/01)

① III

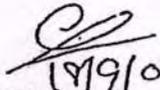
Physical possession of land measuring 22182.79 sqm and
 appurtenant structures, Coventry Lane, Civil Lines, Delhi was
 over from Sh. S.K. Nigam, Tesildar, L&B and simultaneously
 handed over to Sh. Ravi Ranjan Kumar, JEN, Delhi Metro
 Corporation Ltd at the site.

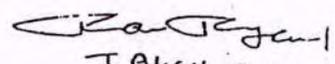

 17/7/01
 HANDED OVER
 (Sh. Chandan Lal)
 S.A., T&H Deptt.


 TAKEN OVER
 (Ravi Ranjan Kumar)
 JE/6-D/DIR/20

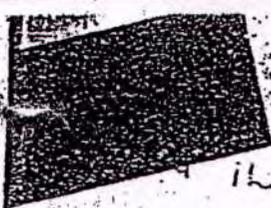
418

Physical possession of land measuring 8329.37 s
and their appurtenant structures, Cavetry lane, Civil
Delhi was taken over from Sri Bhagwan Patwari,
and simultaneously handed over to Ravi Ranjan
Kumar, J.E., DMRC Ltd. at the site


19/9/01
HANDLED OVER
(Chandan Lal)
S.A., TPT Deptt


TAKEN OVER
(Ravi Ranjan
JEN/C.ii/DM

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123



possession of land measuring 8329.37 sqm and their appurtenant structures, Cavelry lane, Civil lin Delhi was taken over from Sri Bhagwan Patwari, L & simultaneously handed over to Ravi Ranjan Kumar, J.E., DMRC Ltd. at the site.

18/9/01
HANDLED OVER
(Chandan Lal)
S.A., TPT. Dept.

Ravi Ranjan Kumar
TAKEN OVER
(Ravi Ranjan Kumar)
JEN/G-III/DMRC

Physical possession of land measuring 22187.77 sqm and 3329.37 sqm (Total - 30512.16 sqm) and their appurtenant structures, Cavelry lane, Civil lines, Delhi was taken over from Sh. Chandan Lal, S.A., TPT. Dept. and simultaneously handed over to Sh. Shivkumar Ganji S.C. Gupta, JEN/M/N, DMRC at the site on 18.09.2001.

Ravi Ranjan Kumar
HANDLED OVER 18/9/01
(Ravi Ranjan Kumar)
J.E./G-III, DMRC

Shivkumar Ganji
TAKEN OVER
(S.C. Gupta)
JEN/M/N, DMRC
J.E./M/N

(A)

130/5

Annexure-1

ग्राम-सिविल स्टेशन लक्ष्मी व जिला - दिल्ली

njan

जमीन
पर

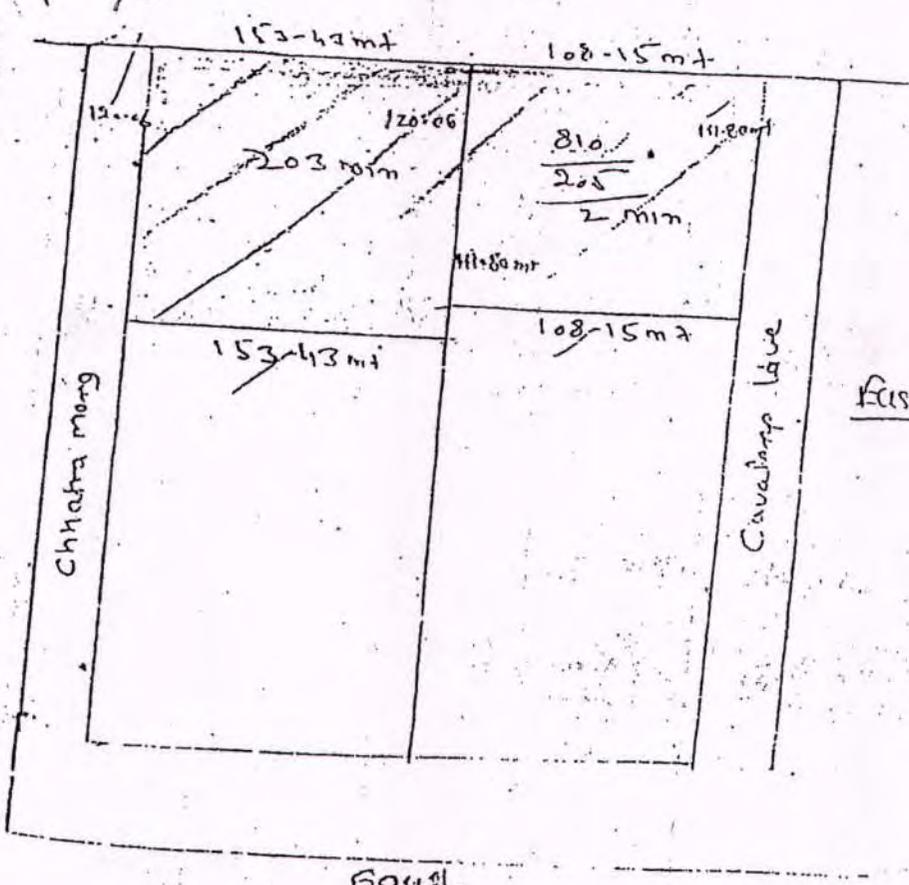
अंश

में

अंश

North

Main Road



East

बस

जे भूजि लक्ष्मी
मि जा रही है।

17-5-21
23-11-21

(191)

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प्रि.स.स. कुक जेर-रन्कीस गाम सिविल स्टेशन

| पूर्व | पश्चिम | उत्तर | दक्षिण | रकबा |
|-----------------|-----------------|------------------------|------------------------|---------------------------------------|
| मि. 120.06 मीटर | मि. 120.06 मीटर | मि. 153.43 | मि. 153.43 | 1.5421.20 मीटर |
| मि. 111.80 मीटर | मि. 111.80 मीटर | मि. 108.15 | मि. 108.15 | 12091.16 मीटर |
| | | वे.स.स. गाम 175-201 | वे.स.स. गाम 175-201 | 30512.16 मीटर वे.स.स. गाम 23-11 |

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IN THE COURT OF SH. YASHWANT KUMAR :
ADDITIONAL DISTRICT JUDGE (LAC) : DELHI

LAC No : 86/2/06

In the matter of :

Union of India
through Land Acquisition Collector,
(D.N.), Delhi.

...Petitioner

Versus

- 1 Sanjay Khanna & Another
S/o Sh. K.C. Khanna,
R/o 3/34, Shanti Niketan,
New Delhi.
- 2 Defence Department
Defence Estates Office,
Delhi Circle, Delhi Cantt.
New Delhi.

...Claimants

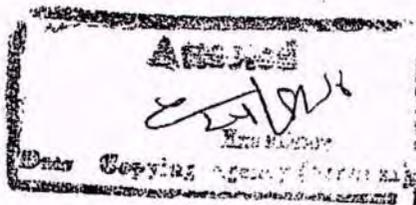
CLAIM UNDER SECTION 30-31 OF THE LAND ACQUISITION
ACT, 1894

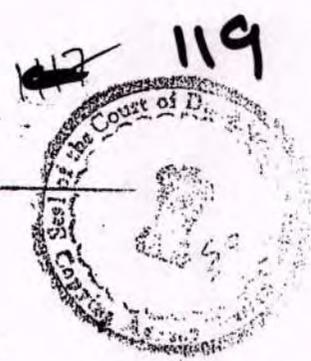
Village - Civil Station.
Award No. - 7/DC/N/2001-02.

AWARD

1 This reference U/sec. 30-31 of the Land Acquisition Act
(hereinafter referred as LA Act) has been sent to this court by
the Land Acquisition Collector (hereinafter referred to as LAC)

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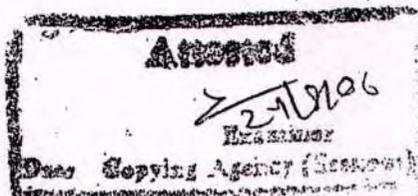


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for apportionment of the compensation amount of Rs. 2,61,13,596/- amongst IP no. 1 Sanjay Khanna on the one hand and IP no. 2 Defence Department on the other hand being leasee and lessor respectively.

2 In fact, the total area of land measuring 30512.16 sq. mtrs forming part of khasra no. 203 min and 810/205/2 min situated at village Civil Station, Civil Lines, covering Bungalow No. 4, Chhatra Marg, Mall road, Delhi and Bungalow no. 1 & 3, Cavalary Lane, Mall Road, Delhi has been acquired by the Land Acquisition Collector/ADM, North District, Delhi under the Act vide award no. 7/DC/N/2001-02 for the purpose of construction of Mass Rapid Transit System in Delhi out of which 4753.97sq. mtrs belongs to the IP no. 1/Sanjay Khanna. Vide this award, the LAC ordered apportionment of the compensation between the lessor and lessee i.e. IP no. 1 & 2 in ratio of 60:40 and, accordingly, in this reference, the LAC, as per Naksha Muntzamin calculated the compensation amongst on the structure and the trees which came to Rs.2,61,13,596/- to this court.

3 IP no. 1 claims that he is the recorded joint owner of the perpetual lease deed and holds right in the land and building



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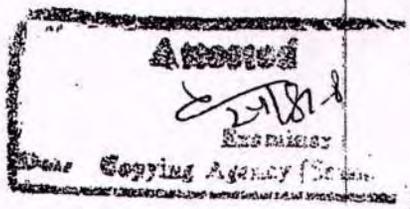
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constructed thereon bearing Bunglow No. 4, Chhatra Marg, Cavalary Lane, Mall Road, Delhi forming part of khasra no.203 min total measuring 9507.94 sq. mtrs which was acquired by the government. The said land was initially owned by Sh. J. C. Robert by virtue of perpetual lease-deed dated 25.05.1906 executed between the Secretary state in India and Sh. J. C. Robert, duly registered as document No. 2064 in Book No. 1 Volume No. 64 at pages 57 to 95 on 08.08.1906 with the Sub-Registrar, Delhi. The right, title and interest in the said land was, subsequently, relinquished by said Sh.J.C.Robert in favour of Smt. Shanta Devi Khanna and Ved Parkash Gupta. The Bunglow no. 4 had already been mutated in the name of IP no.1/Sh. Sanjay Khanna and his two other co-owners namely, Sh. R. C. Khanna and Sh. Ved Prakash Gupta vide mutation letter dated 09.01.1998 bearing reference no. 3/514/H/DEO/171 and the said property had always been in occupation and in possession of IP no. 1, his co-owners and predecessor-in-interest ever since it had been purchased from the original allottee Mr. J. C. Roberts.

4 It is alleged that the LAC wrongly placed reliance on the judgment reported in Union of India vs Ajit Singh (1997) VI SCC 50 while arriving at the apportionment of 60% to the lessee and

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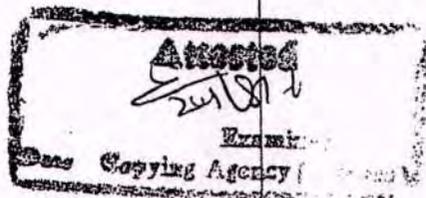


40% to the lessor as the ratio of the said case is not applicable to the facts of the present case. In the said reported case, lease was only for a limited period of 99 years and out of which and 18 years of the lease period had expired and the lessee in the said case was mis-using the land against the permitted user under the lease. Whereas, in the present case, the claimants lease hold rights are in infinity and inperpetuity, therefore, IP no. 2/defence department is only entitled to the capitalized value of the annual lease money for a period of 20 years.

5 Person interested No.2 the defence department, on the other hand, though, admitted the status of the lessor and the lessee correct, but, submitted that the LAC, wrongly apportioned the compensation of the land. It also mentioned that the compensation should have been divided proportionately between the claimants. Moreover, the IP no. 1 had violated the terms and conditions of the lease and erected unauthorised constructions/alteration on the land in question against the permission user under the lease thereby mis-using the land in his occupation under the said lease. Thus, the IP no. 2 is entitled to the entire compensation assessed by the LAC in the award in question except the compensation assessed for super structure.

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6 On the pleadings of the parties, the following issues were framed 23.09.2005 :-

- 1 What right, title, or interest the parties have in the land in question?
- 2 Relief.

7 Ld. Counsel for the claimants did not prefer to lead evidence.

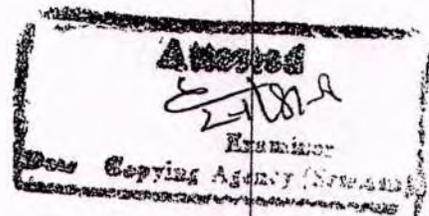
8 I have heard the counsel for the parties and have perused the entire materials on record. My findings on the above issue is as follows:

ISSUE NO. 1

9 The ld. Counsel for the IP no.1 argued that the IAC has, wrongly, relied upon the judgment reported in Union of India vs Ajit Singh (1997) VI SCC 50 because the lease deed in the cited cases was for 99 years and the leasee had already enjoyed the lease for about 18 years whereas in the case in hand, the lease is in perpetuity and for ever. According to him, the lessor is entitled to the capitalized lease money for 20 years only.

Whereas, the l.d. Counsel for the IP no.2 argued that the compensation money should be divided proportionately

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between the claimants; and, since, the IP no.1 had violated the terms and conditions of the lease and erected unauthorised construction on the land in question against the permission under the lease and misused the land in other occupation, they are not entitled to any compensation.

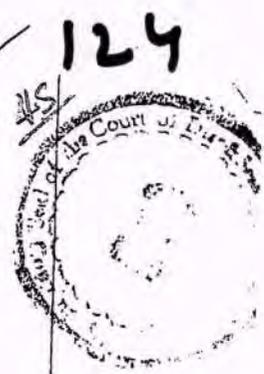
10 It is well settled that when an open land is given by the Government to have super structure built thereon; and the same is required for the public purpose, the Government is required to exercise power of eminent domain by invoking the provisions of the Act and the Collector thereupon has to determine the compensation towards the lease-hold interest held by the lessee and in doing so, the proposition to which the lessor and lessee are entitled to receive the compensation has to be determined. The Hon'ble Supreme Court in the case of Sioayooeswara Cotton Press Grvanger and others Vs. M.Panchakabaraona and others AIR 1962 SC 413 observed as under:

"The forms in which tenancy rights are created in India are not uniform and they do not conform to precedents known to the conveyancing; sometimes the words used are not precise as it is not easy to understand from the said words the intention of the parties in executing the documents. The nature of the tenancy created by any

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document must be determined by construing the document as a whole. If the tenancy is for a building purpose, prima-facie, it may be arguable that it is intended for the lifetime of the lessee or may in certain cases be even a permanent always. Prima facie such a lease is not intended to be a tenancy at will. But, whether it is a tenancy for life or a permanent tenancy must ultimately depend upon the terms of the contract itself. And, in construing the terms of such contracts the courts must look at the substance of the matter and decide what the parties really intended to do".

11 Therefore, the court is required to take into consideration the relevant factors viz the duration of the lease, right to enjoyment of the lease-hold, and the improvement the tenant made on the land etc. In the case in hand, the lease is, admittedly, for ever, without interruption of the Secretary of State, his successor and assignees as is evident from clause 15 of the lease-deed. Apart from this, as is evident from clause 4 of the deed, the lessee has right to transfer by sale, gift, mortgage or exchange his interest in the land or in the building erected on the land, of course, with one month's notice in writing before the transfer is completed. Therefore, it is clear that lessee have lease hold rights for ever and unlimited period and have rights to transfer by sale, gift, mortgage or exchange their

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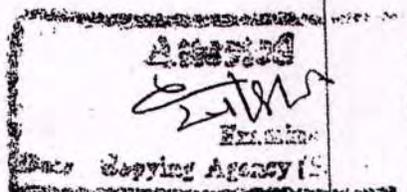
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interest in the land. The LAC relied upon the case of Union of India Vs Ajit Singh (Supra) wherein the lease was for a limited period of 99 years and the lessee had already availed lease for 18 years. Perhaps, this was the reason the Hon'ble Supreme Court apportioned the compensation between the lessor and the lessee in the ratio 40:60. Therefore, keeping in view the peculiar aspect of the perpetual lease-deed between the parties, the rights of the lessee on the one hand and that of the lessor on the other, have to be evaluated. In case of Hakim Singh Vs. Collector, Gurdaspur AIR 1932 Lah. 123, it was observed as under:

"Where the land leased in perpetuity on a fixed rent is acquired under the Land Acquisition Act and the question is as to the proportion in which compensation should be divided between the lessor and the lessee, the court ought to proceed on the principle of the Zamindar on the one hand with which has parted and that of the tenant on the other, and to apportion the compensation money between them in accordance with those values".

12 Again, in a similar type of matter, to come up for a decision in Telu Ram Vs State of Punjab, FA 210 of 1950, the Division Bench of the Hon'ble High Court on 26.09.1958, their Lordship followed the DB authority of Calcutta High Court in

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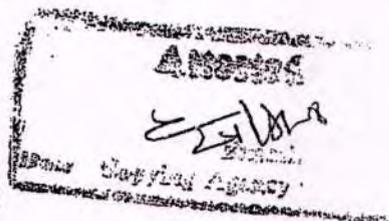


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Dinendra Narain Roy Vs Tiu Ram H.R 80 Vol. 801, wherein it was held:

"In apportioning compensation money, awarded under the Land Acquisition Act, between the Landlord and the tenure-holder, the court ought to proceed on the principle of ascertaining what the value of the interest of the land lord is on the one hand and that of the tenant on the other, and to divide the sum awarded between them in accordance with these value. Where the rent is fixed in perpetuity the landlord is not entitled to more than the capitalized value of his rent. Similar view was followed by the Hon'ble High Court of Punjab in case Batan Singh & anothers Vs Natha Birju, AIR 1961 Punjab -503. The Hon'ble Supreme Court also in case of vithal Yeswant Jathar Vs. Shikandarkhan Mukhrum khan Sardesai, AIR 1963 SC 385 held that the landlord is only entitled to capitalized value of the rent".

13 In case of Kachrual Hiralal Dhoot Vs The Gurudwara Board Nauded and others, AIR 1979 Bombay 31, the Division Bench of the Hon'ble High Court of Bombay held that if the right of the owners was only to receive every year a certain sum, then naturally upon acquisition of the property including their interest in the land, they would receive the amount of compensation which could be arrived at upon capitalization of 20 years' income. The rest of the amount of the total amount of compensation awarded by the Trial court was to be paid to the



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other claimants either on the footing that they were permanent tenants or permanent licensees.



14 In case LAC No. 96/2000, Union of India Vs Adel Singh and others, decided by the LAC court on 29.05.2001, a similar view was taken in respect of the same type of lease that the lessor is only entitled to the grant of capitalized value of the rent. The capitalized value was assessed for 20 years at the rate of the rent. No doubt, the I.d. Counsel for the defence department referred to the clause of resumption of land but the fact remains that the same was never resumed nor any step was ever taken to do so.

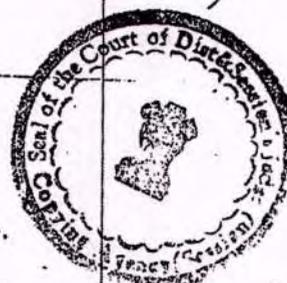
15 In the present reference, admittedly, the lease-rent payable to the lessor is Rs.12/- per year. Therefore, the capitalized value at the said rate for 20 years comes to Rs.240/-. My decision is also supported with the references decided by the Ld. ADJ, Delhi in Lac No. 3/2002 and Lac no. 5/2002 which were in respect of the same award and the properties. The RFA nos. 324, 325, 326, 328 and 329/2003 filed against the references decided in respect of the said properties have been dismissed by the Hon'ble High Court of Delhi vide its order dated 17.03.2005. Thus, the lessor/IP no. 2, the defence department

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28.07.06

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Attorney
Date Copying [Signature]
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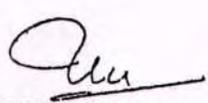


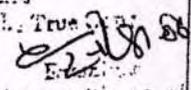
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herein is accordingly, entitled to the compensation to Rs.240/-.
Res^d of the compensation would go to the lessee i.e. IP no. 1 as
per the share contemplated by the LAC in paying 60% amount
of compensation to him.

RELIEF

16 In view of my findings on issue no.1, the IP no. 1 is
entitled to the compensation except the aforesaid capitalized
value of the rent. The reference, accordingly, stands disposed
of. Nazir shall calculate the amount so that the payment can be
released to the claimants.

Announced in open court
on 28.07.2006


(YASHWANT KUMAR)
ADDL. DISTRICT JUDGE (LAC)
DELHI

Office of the District Judge
Delhi
Certified to be True Copy

Date Copying Agent
Authorized under Section 19 of the
Indian Evidence Act, 1908.

129
22

* IN THE HIGH COURT OF DELHI AT NEW DELHI

Reserved on: December 13, 2012
Pronounced on: January 04, 2013

+ (i) R.F.A. No. 838/2002

UNION OF INDIA

..... Appellant

Through: Ms.Sonia Mathur and Mr.Sushil
Dubey, Advocates

versus

ADIL SINGH & ORS.

..... Respondents

Through: Mr.Ravinder Sethi, Senior
Advocate with Mr.Ajoy B.Kalia,
Advocate for Respondent No. 1.
Mr.Sanjay Kumar Pathak and
Ms.K.K. Kiran. Advocates for
UOI/LAC
Mr.Rajesh Yadav and Ms.Ruchira,
Advocates for Respondent No. 4.

+ (ii) LA. APP. No. 305/2007

DEFENCE ESTATES OFFICER

..... Appellant

Through: Ms.Sonia Mathur and Mr.Sushil
Dubey, Advocates

versus

LAC & ORS.

..... Respondents

Through: Mr.Sanjay Kumar Pathak and
Ms.K.K. Kiran, Advocates for
UOI/LAC
Mr.Rajesh Yadav and Ms.Ruchira,
Advocates for Respondent No. 2(a)
to 2(d).

R.F.A. No. 838/2002, 305/2007, 324/2003, 83/2007, 328 & 329/2003

Page 1 of 10



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Ruchira

Examiner, Judicial Department
High Court of Delhi
Authorised Under Section 70 of
Indian Evidence Act,

+ (iii) R.F.A. No. 324/2003

DEFENCE ESTATES OFFICER

..... Appellant

Through: Ms.Sonia Mathur and Mr.Sushil
Dubey, Advocates

versus

LAC & ORS.

..... Respondents

Through: Mr.Sanjay Kumar Pathak and
Ms.K.K. Kiran, Advocates for
UOI/LAC

+ (iv) R.F.A. No. 83/2007 & C.M.No. 3616/2007

DEFENCE ESTATES OFFICER

..... Appellant

Through: Ms.Sonia Mathur and Mr.Sushil
Dubey, Advocates

versus

LAC & ORS.

..... Respondents

Through: Mr.Sanjay Kumar Pathak and
Ms.K.K. Kiran, Advocates for
UOI/LAC
Mr.Rajesh Yadav and Ms.Ruchira,
Advocates for Respondent No. 2.

+ (v) R.F.A. No. 328/2003

DEFENCE ESTATES OFFICER

..... Appellant

Through: Ms.Sonia Mathur and Mr.Sushil
Dubey, Advocates

versus

LAC & ORS.

..... Respondents

Through: Mr.Sanjay Kumar Pathak and
Ms.K.K. Kiran, Advocates for
UOI/LAC

R.F.A. No. 838/2002, 305/2007, 324/2003, 83/2007, 328 & 329/2003

Page 2 of 10



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Judicial Department
Section 70 of
Indian Evidence Act,

-11/131
(198)

+ (vi) R.F.A. No. 329/2003

DEFENCE ESTATES OFFICER Appellant
Through: Ms.Sonia Mathur and Mr.Sushil
Dubey, Advocates

versus

LAC & ORS. Respondents
Through: Mr.Sanjay Kumar Pathak and
Ms.K.K. Kiran, Advocates for
UOI/LAC
Mr.N.S.Vashisht and Mr.Arpan
Sharma, Advocates for respondent
No.2

CORAM:
HON'BLE MR. JUSTICE SUNIL GAUR

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JUDGMENT

1. The subject matter of the above captioned six appeals is the apportionment of compensation in respect of acquisition of land at *Jantar Mantar, Delhi* in the first above captioned appeal and in remaining appeals, at *Mall Road, Delhi* vide Notification of 31st March, 2000 under Section 4 of *Land Acquisition Act, 1894*. Since the subject matter of above captioned appeals is identical, therefore these appeals were heard together and are being disposed of by this common judgment.

2. Reference Court's order in proceedings under Section 30 & 31 of *Land Acquisition Act, 1894* grants compensation to respondents herein while granting to appellant capitalized value of

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rent of subject land which was leased out in perpetuity by appellant to respondents.

3. Appellant in these appeals claims apportionment of compensation awarded in the ratio of 25%: 75%. That is, out of the compensation awarded 25% is claimed by appellant by virtue of being the Lessor/owner of the subject land and the remaining 75% of the compensation to the respondents.

4. Learned counsel for appellant contends that the principle of law in respect of apportionment of compensation as enunciated in *Sharda Devi vs. State of Bihar and another* (2003) 3 SCC 128, is inapplicable to the case in hand, as the Lessor is Ministry of Defence, Government of India, whereas the acquiring agency is Government of NCT of Delhi. It is pointed out by appellant's counsel that though the Notification under Section 4 of the *Land Acquisition Act, 1894* was for acquisition of leasehold rights but the subject land was assessed by Land Acquisition Collector at the market rate and so, the ratio of Apex Court decisions in *Brij Behari Sahai (dead) through LRs. & Ors. vs. State of U.P.* (2004) 1 SCC 641 and *Union of India & others vs. A. Ajit Singh*, AIR 1997 SC 2669 apportioning the compensation between the Lessor and the Lessee in the ratio of 40% : 60% or 75% : 25% of market value of the land applies. It is pointed out by learned counsel for appellant that the compensation assessed in respect of superstructure on the subject land has been awarded to the Lessee and the Land Acquisition Collector had rightly awarded compensation in the



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Authorised Signatory
Under Evidence Act,

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ratio of 60%: 40%. That is, 60% to Lessee and 40% to the Lessor while determining the market value of the acquired land.

5. According to appellant's counsel, a bare perusal of the identical Lease Deeds in question reveals that appellant had retained absolute ownership of the subject land and there was a resumption clause also in the Lease Deeds in question which gives right to appellant to resume the subject land after giving one month's notice. While placing implicit reliance upon Apex Court decision in *Inder Parshad vs. Union of India and others*, (1994) 5 SCC 239, apportionment of compensation in respect of acquired land in question is claimed in these appeals in the ratio of 25% : 75%, i.e., 25% to appellant and 75% to the respondents.

6. Learned counsel for contesting respondents maintain that the impugned judgment is sustainable on facts and in law as well. During the course of hearing, attention of this Court was drawn to Notification in question under Section 4 of *Land Acquisition Act, 1894* to point out that it specifically mentions that leasehold rights in the subject land are sought to be acquired and so logically speaking, the compensation awarded is in respect of leasehold rights only, which has been rightly granted to contesting respondents by the Reference Court.

7. By placing reliance upon decisions in *Sharda Devi vs. State of Bihar and another*, (2003) 3 SCC 128; *Collector of Bombay vs. Nusserwanji Rattanji Mistri and others*, AIR 1955 SC 298; *G.H. Grant (Dr) vs. State of Bihar*, AIR 1966 SC 237; decisions in



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R.F.A. No. 70/1989, *Raj Kumar & Ors. vs. Union of India*, rendered on 21st December, 2001; *Vithal Yeshwant Jathar vs. Shikandarkhan Makhtumkhan Sardesai*, AIR 1963 SC 385; *Kachrual Hiralal Dhoot vs. The Gurudwara Board Nanded and others*, AIR 1979 Bombay 31 and *Sivayogeswara Cotton Press, Devangere and others vs. M.Panchaksharappa and another*, AIR 1962 SC 413, it was vehemently contended that the State does not acquire its own land and if Government itself has interest in the land then, it acquires other interests thereupon and the compensation awarded has been determined in respect of leasehold rights only and not of ownership rights of the Lessor/appellant. According to learned counsel for contesting respondents, reliance placed upon decision in *Inder Parshad* (supra) by appellant is of no avail and that the State is not a 'person interested' as defined in Section 3(b) of the *Land Acquisition Act, 1894*. It is contended on behalf of contesting respondents that there is no question of grant of any compensation awarded to the appellant.

8. Infact, attention of this Court was drawn by respondents' counsel to paragraphs no.: 4 to 6 and 8 of the decision in *Inder Parshad* (supra) to highlight that unless sum total of interest held by Lessor and Lessee in the land is acquired, the compensation payable is towards the leasehold interest and the Lessor in case of leasehold properties is entitled to claim land revenue etc. only, which has been already granted to appellant in the impugned order by arriving at the capitalized value of the rent while computing it



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Examiner, Judicial Department
High Court of Madhya Pradesh
Authorized Under Section 70 of
Indian Evidence Act,

for a period of *twenty* years. Dismissal of these appeals is sought by learned counsel for contesting respondents by implicitly relying upon the nature of the lease in question being permanent and because the acquisition was in respect of leasehold rights only.

9. The contentions advanced by the respective parties and the decisions cited have been pondered over and the impugned judgment as well as the material on record has been perused. Thereupon, it transpires that though the Notification acquiring the subject land was in respect of leasehold rights only but, infact perusal of the Award of Land Acquisition Collector reveals that the determination of compensation is on the basis of market value of the subject land. This makes all the difference. That is to say, the ratio of decisions relied upon by learned counsel for contesting respondents could have really applied, had the assessment of compensation been actually in respect of leasehold rights only in the subject land.

10. Since the determination of compensation in respect of subject land is at the market value of land in question, therefore the ratio of decisions of Apex Court in *Inder Parshad* (supra) and *Brij Behari Sahai* (supra) squarely applies. The pertinent observations made by Apex Court in *Inder Parshad* (supra) are as under:-

"But on the facts in this case, it is seen that since the Land Acquisition Collector had determined the compensation of the sum total of the interests held by the lessor and the lessee in the land under acquisition



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Section 70 of
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but being not able to decide on the apportionment of such compensation between Government and the appellant reference was made to the civil court to determine the apportionment. The civil court decided by its award that apportionment of compensation fixed in the award of the Land Acquisition Collector between the lessee-claimant and the Government-landlord shall be in order of 67 per cent and 33 per cent. The High Court by its judgment and decree under the present appeal has modified the apportionment of compensation payable for land as 75 per cent for the lessee and 25 per cent for the lessor."

11. It would be worthwhile to quote relevant paragraph no. 20 and 21 of Apex Court decision in *Brij Behari Sahai* (supra) which reads as under:-

"20. The claim on behalf of the appellants that the entire compensation determined was only in respect of the totality of the rights held by the appellants as lessees and not of the whole inclusive of the rights and interests of the Government also, though appears to be attractive, does not appeal to us for acceptance. Though as a matter of principle of law, the Government while invoking the provisions of the Land Acquisition Act for acquiring a land in which the Government also had some or other of the interest, need not go for acquiring their interest as well as what is permissible as well as obligated for acquisition is only such of the private interest of third parties other than that of the Government, the Land



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Executive Judicial Department
High Court of Delhi
Authorized Under Section 70 of
Indian Evidence Act,

Acquisition Officer in this case has chosen to, while determining the market value, indisputably proceed to determine for the whole of it and only as a consequence thereof has chosen to apportion compensation between the Government and the claimants at the rate of 10 annas : 6 annas respectively. Though the Reference Court, during the course of its judgment, adverts to the principles relating to the need or desirability of acquiring land of only private parties other than that of the Government under the Land Acquisition Act, has ultimately chosen to adopt only the standard rate of market value determined by the Land Acquisition Officer. Consequently, niceties of language apart and the purported endeavour attempted to have been made by the Reference Court, we are constrained to hold that the actual market value determined was that of the acquired properties as a whole and consequently, the need for apportionment would inevitably arise.

21. Applying the ratio of the decision of this Court reported in *Inder Parshad* case the fixation of apportionment in the ratio of 75% in favour of the claimants and 25% in favour of the State would be just and reasonable. The ratio fixed therein seems to us to be more appropriate on the facts of these cases, than the one approved in *A.Ajit Singh* case. Having regard to the fact that the Government's interest has been fixed at the proportion of 25%, there is no further need or justification to direct the capitalization of the ground rent for further being deducted or directed to be paid by the claimants either from the compensation amount or otherwise, separately."



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Executive Judicial Department
Madhya Pradesh
Acted under Section 70 of
Indian Evidence Act,

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12. Reference Court in the impugned judgment though had taken a note of the Apex Court decision in *Inder Parshad* (supra) but has failed to apply its ratio by distinguishing it and has misapplied the ratio of Apex Court decisions in *Sharda Devi* (supra); *Vithal Yeshwant Jathar* (supra) and *Cotton Press* (supra) while missing out the vital distinction of actual basis of the compensation assessed which undisputedly is at the market rate of the subject land and is certainly not on the basis of leasehold rights only in the acquired land. Therefore, the contentions advanced by learned counsel for contesting respondents and the reasoning in the impugned order does not hold good.

13. In the aforesaid view, the impugned judgment is clearly unsustainable and is thus set aside and the above captioned appeals are allowed. Resultantly, appellant shall get 25% of the compensation awarded and rest of the 75% compensation awarded shall go to the respondents.

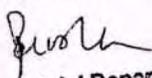
14. The above captioned appeals are accordingly disposed of while leaving the parties to bear their own costs.

(SUNIL GAUR)
 Judge

January 04, 2013
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 Examiner, Judicial Department
 High Court of Delhi
 Authenticated Under Section 70 of
 Indian Evidence Act,

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* IN THE HIGH COURT OF DELHI AT NEW DELHI

I RFA 325/2003

DEFENCE DEPARTMENT Appellant

Through: None.

versus

IAC ORS. Respondents

Through: Mr.Arpan Sharma, Advocate for
private respondents.**CORAM:****HON'BLE MR. JUSTICE SUNIL GAUR****ORDER****11.02.2013**

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It is stated by counsel for respondent No. 2 that an application to bring on record the legal heirs of second respondent has been filed in the Registry vide Diary No.13166 on 24th January, 2013. The same is not on record. However, filing of application makes no difference as fate of this appeal is governed by decision of this Court in bunch of appeals, with lead matter being R.F.A. No.838/2002 titled as *Union of India vs. Adil Singh & Ors.*, rendered on 4th January, 2013.

This appeal is disposed of in terms of decision in R.F.A. No.838/2002 titled as *Union of India vs. Adil Singh & Ors.*, rendered on 4th January, 2013.

(SUNIL GAUR)**Judge****FEBRUARY 11, 2013**

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 Annexure 'A'

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ITEM NO.7

COURT NO.1

SECTION XIV

S U P R E M E C O U R T O F I N D I A
 RECORD OF PROCEEDINGS

Petition(s) for Special Leave to Appeal (C) No(s). 14357/2013

(Arising out of impugned final judgment and order dated
 04/01/2013 in RFA No. 838/2002 passed by the High Court Of
 Delhi At New Delhi)

ADIL SINGH

Petitioner(s)

VERSUS

UOI & ORS.
 (With interim relief and office report)
 (FOR FINAL DISPOSAL)

Respondent(s)

WITH

SLP(C) No. 15582/2013

(With Interim Relief and Office Report)

✓ SLP(C) No. 16095/2013

(With Interim Relief and Office Report)

✓ SLP(C) No. 16398/2013

(With Interim Relief and Office Report)

✓ SLP(C) No. 16590/2013

(With Interim Relief and Office Report)

✓ SLP(C) No. 16971/2013

(With appln.(s) for substitution and Interim Relief and Office Report)

✓ SLP(C) No. 17105/2013

(With Interim Relief and Office Report)

SLP(C) No. 22288/2013

(With Office Report)

✓ SLP(C) No. 23099/2013

(With Office Report)

Signature and Name
 Deputy Registrar
 Date: 17.10.13
 Time: 10:15

✓ SLP(C) No. 25766/2013

(With Office Report)

✓ SLP(C) No. 32140/2013

(With Office Report)

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SLP(C) No. 32353/2013
(With Office Report)

Date : 17/11/2015 These petitions were called on
for hearing today.

CORAM :

HON'BLE THE CHIEF JUSTICE
HON'BLE MR. JUSTICE ARUN MISHRA

| | |
|-------------------------------------|---|
| For Petitioner(s) | Mr. C.A. Sundaram, Sr. Adv. Mr. Ravinder Sethi, Sr. Adv. Mr. K.G. Bhagat, Adv. Mr. Vineet Bhagat, Adv. Ms. Charu Rustogi, Adv. Mr. Ajoy Bhushan Kalia, Adv. Ms. Puneet Sharma, Adv. |
| | Mr. L. Nageshwar Rao, Sr. Adv. Mr. N.S. Vasisht, Adv. Mr. Vishal Singh, Av. Mr. Pradeep Misra, Adv. |
| | Ms. Ranjeeta Rohtagi, Adv. Mr. Gurmehar Sistani, Adv. |
| | Mr. R.S. Rana, Adv. Mr. Shyamal Kumar, Adv. |
| | Mr. Bony Mehra, Adv. Mr. Inder Singh, Adv. Ms. Shobha, Adv. |
| | Mr. N.S. Vasisht, Adv. Mr. Pradeep Misra, Adv. |
| For Petitioner(s)/ Respondent(s) | Mr. Rajesh Yadav, Adv. Mr. Vinay Garg, Adv. Ms. Ruchira Arora, Adv. |
| | Mr. Sangram S. Saron, Adv. Mr. Abhishek Atrey, Adv. |
| | Mr. Ravinder Sethi, Sr. Adv. Mr. Ajoy Kalia, Adv. Mr. Gautam Narayan, Adv. Mr. R.A. Iyer, Adv. |

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For Respondent(s) Mr. S. Wasim A Qadri, Adv.
Mr. Ranjeet Kumar Jha, Adv.
Mr. Zaid Ali, Adv.
Mr. D.S. Mahra, Adv.

✓ Ms. Kiran Suri, Sr. Adv.
Ms. Rekha Pandey, Adv.
Mr. Rohtash Nagar, Adv.
Mr. Subas C. Acharya, Adv.
Mr. Rajat Singh, Adv.
Mr. B.V. Balaram Das, Adv.

Mr. Tara Chandra Sharma, Adv.
Mr. Dhruv Sharma, Adv.
Ms. Sushma Suri, Adv.

UPON hearing the counsel the Court made the following
O R D E R

Delay condoned, if any.

Application(s) for substitution, if any,
is/are allowed.

The special leave petitions are dismissed.

[Charanjeet Kaur]
A.R.-cum-P.S.

[Vinod Kulvi]
Asstt. Registrar

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Most Urgent

By Speed Post

No.3/1171/DEO/MRTS

Office of DEO,

Delhi Circle, Delhi Cantt.

Dated 27 Feb, 2012.

To

Dy Commissioner (North),
1, Kripa Naraian Marg,
Delhi - 54.

Subject : Defence land acquired under award No.7/DC/N/2001-02 : Civil Station /
Mall Road.

Sir,

Reference this office letter No.3/220/BSM/DEO, dated 10.02.2012.

2. Govt of Delhi proposed the acquisition of land at Cavalary Lane and Chhatra Marg, Mall Road, Civil Lines area for construction of Metro Railway. A part of the proposed acquisition pertained to land falling within the limits of the leased bungalows No.1, 3 & 4. Accordingly, Govt of India, Ministry of Defence vide their letter No.13015/2/DEO(Lands)/2000, dated 02.05.2000 accorded 'No Objection' to the acquisition of Bungalow No.1 & 4 in full and part area of bungalow No.3 held on lease from the Ministry of Defence. Notification under Section 4 of the LA Act, 1894 was issued by Govt of NCT vide notification No.F.7(26)/2000/L&B/LA/13537, dated 15.02.2000 for construction of MRTS. Declaration under Section 6 of the LA Act was issued on 14.02.2001.

2. 'No Objection' of Ministry of Defence was granted subject to the apportionment of compensation awarded under the provisions of LA Act and rules made thereunder for the rights held by the Ministry of Defence, as lessor the above bungalows. The LAC announced the award on 06.09.2001 for all the 03 bungalows (copy enclosed). The LAC has awarded apportionment between the lessor and the lessee in the ratio of 40:60 on the market value of land.

3. With reference to above, it is requested to kindly provide the details of payment of compensation made to the lessees, as well as the lessor, as per the details available in your records. The information is urgently required by Ministry of Defence.

This may please be accorded priority.

Yours faithfully,

S. Sujatha
(Sujatha Gupta)

Defence Estates Officer,
Delhi Circle, Delhi Cantt.

Speed Post

Tele :011-25684006, 25686971

Fax: 011- 25684005

No.3/1171/DEO/MRTS/II/ 113

Office of DEO

Delhi Circle, Delhi Cantt.

Dated 17 June, 2016.

To

ADM Cum LAC (North)..
Room No.23, DM Office Complex
Alipur, Delhi-110036.

Sub: Defence land acquired under award No.7/DC/N/2001-2002, 06.09.2002.

Reference this office letter No.3/1171/DEO/MRTS, dated 27.02.2012.

2. It is informed that the leased defence land measuring 30512.16 Sq.mtrs. i.e Bungalow No.4, Chhatra Marg, Bungalow No.1 & 3, Cavalary Lines, Mall Road, Village Civil Station, Delhi was acquired vide subject award. Accordingly, the land acquisition collector awarded the compensation by apportioning in the ratio of 40:60 to the lessor and lessees respectively (Copy enclosed).
3. Not satisfying with the apportionment ratio, the lessees of the defence land filed the cases U/s 30 & 31 in Tis Hazari Court Delhi, which were decided by the ADJ Court, Tis Hazari vide its order dated 29.07.2002 in LAC Numbers 02/2002, 03.2002, 05/2002, 06/2002, order dated 05.10.2002 in LAC No.07/2002, order dated 28.07.2006 in LAC No.86 & Order dated 28.03.2007 in the LAC No.89/2006
4. Aggrieved with the order of the ADJ, Union of India, Defence Deptt. filed RFA in the Hon'ble High Court which were disposed off by apportioning the compensation in the ratio of 25:75 between the lessor & Lessee respectively vide order dated 04.01.2013 & 11/02/2013 (Copy enclosed).
5. The Ex-lessees filed S.L.P's in the Hon'ble Supreme Court against High court orders dated 04.01.2013 & 10.02.2013. The Hon'ble Supreme Court dismissed the said S.L.P's and upheld the High Court's Order vide order dated 17.11.2015 (Copy enclosed). It is pertinent to mention here that the LAC Distt. North was also party in the subject court cases since the beginning.
6. In view of the above, it is requested to release the awarded compensation along with interest to this office as per the High Court order dated 04.01.2013 & 11.02.2013 as the matter is pending since long.

Encls: As above.

Copy to:-

DM (North)
Room No.1, DM Office Complex,
Alipur, Delhi - 110036.



(Alok Gupta)
Defence Estates Officer
Delhi Circle, Delhi Cantt.

O/c 18/06/16

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Tele :011-25684006, 25686971

Fax: 011- 25684005

Most Urgent/Speed Post

No.3/1171/DEO/MRTS/II/ 114

Office of DEO

Delhi Circle, Delhi Cantt.

Dated 24 January, 2017.

To

ADM Cum LAC (North).
Room No.23, DM Office Complex
Alipur, Delhi-110036.

Sub: Defence land acquired under award No.7/DC/N/2001-2002, 06.09.2002.

Reference this office letter No.3/1171/DEO/MRTS, dated 27.02.2012 and No.3/1171/DEO/MRTS/II/113, dated 17.06.2016.

2. You were requested vide this office letter referred above to release the awarded compensation to this office as per the Hon'ble High Court order dated 04.01.2013 & 11.02.2013. The SLP application also filed in the instant case stands dismissed vide Hon'ble Supreme Court order dated 17.11.2015.
3. LAC Distt. North was party in the subject court cases since the beginning. Therefore, you are again requested to release the awarded compensation along with interest to this office as per the High Court order dated 04.01.2013 & 11.02.2013 immediately in your interest to avoid escalation of interest.
4. It is hoped that this office will not be forced to take recourse of court to recover this amount..



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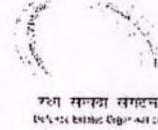
DM (North)
Room No.1, DM Office Complex,
Alipur, Delhi - 110036.

AS
(Alok Gupta)
Defence Estates Officer
Delhi Circle, Delhi Cantt

O/c *Sanjay Phn*
24/01/17



रक्षा सम्पदा कार्यालय
DEFENCE ESTATES OFFICE
दिल्ली मण्डल, दिल्ली छावनी
DELHI CIRCLE, DELHI CANTT.



फोन: 011-25686971, 25684006, फैक्स: 011-25684005, ई-मेल: deodelhi@dgest.org

No. 3/1171/DEO/MRTS/II/114

Dated 24 April, 2018

To

ADM cum LAC (North)
Room No. 23, DM Office Complex
Alipur, Delhi-110036

Subject: Defence land acquired under award No. 7/DC/N/2001-2002, 06.09.2002

Reference this office letter No. 3/1171/DEO/MRTS/II, dated 27.02.2012, 17.06.2016 and 24.01.2017.

2. You were requested vide this office letter referred above to release the awarded compensation to this office as per the Hon'ble High Court order dated 04.01.2013 & 11.02.2013. The SLP application also filed in the instant case stands dismissed vide Hon'ble Supreme Court order dated 17.11.2015.
3. Therefore, you are requested for the last time to release the awarded compensation alongwith interest to this office immediately otherwise, we will be constrained to file recovery petition in appropriate court of law.

(Alok Gupta)

Defence Estates Officer,
Delhi Circle, Delhi Cantt.

Copy to:-

DM (North)
Room No. 1, DM Office Complex,
Alipur, Delhi - 110036

- for information please.



सत्यमेव जयते

रक्षा सम्पदा कार्यालय
DEFENCE ESTATES OFFICE
दिल्ली मण्डल, दिल्ली छावनी
DELHI CIRCLE, DELHI CANTT.

रक्षा सम्पदा संगठन
Defence Estates Organisation

फोन: 011-25686971, 25684006, फैक्स: 011-25684005, ई-मेल: deodelhi@dgest.org

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2018/2018

No. 3/1171/DEO/MRTS/II/114

Dated: August, 2018

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To

ADM cum LAC (North)
Room No. 23, DM office Complex
Alipur, Delhi-110036

Subject: Defence land acquired under award No. 7/DC/N/2001-2002, dated 06.09.2002.

Reference this office letter No. 3/1171/DEO/MRTS/II, dated 27.02.2012, 17.06.2016, 24.01.2017 and 24.04.2018.

2. You were requested vide this office letter referred above to release the awarded compensation to this office as per the Hon'ble High Court order dated 04.01.2013 & 11.02.2013. The SLP application also filled in the instant case stands dismissed vide Hon'ble Supreme Court order dated 17.11.2015.
3. Therefore, you are requested for the last time to release the awarded compensation alongwith interest to this office immediately otherwise, we will be constrained to file recovery petition in appropriate court of law.

(Alok Gupta)
Defence Estates Officer,
Delhi Circle, Delhi Cantt.

Copy to:-

DM (North)
Room No. 1, DM Office Complex,
Alipur, Delhi - 110036

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148

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH AT NEW DELHI

CASE NO. Appeal No- 112 / 2018 OF 2019

IN THE MATTER OF :

University of Delhi

VERSUS

Ministry of Environment Forests and Climate
Change and ORS.

PROOF OF SERVICE

| | |
|------------------------|-----------------------|
| Applicant | <u>Q aradher to m</u> |
| Respondent No. 1 CPCB | <u>Jan 11/02/19</u> |
| Respondent No. 2 DDA | <u>Jan 01/01/19</u> |
| Respondent No. 3 | |
| Respondent No. 4 MOEF | <u>Rahul Prasad</u> |
| Respondent No. 5 DMRC | <u>Sudip Kumar</u> |
| Respondent No. 6 GNCTD | <u>01.02.19</u> |
| Respondent No. 7 | |
| Respondent No. 8 | |
| Respondent No. 9 | |
| Respondent No. 10 | |

~~ANNEXURE 9~~

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E. C. dt. 27-1-44.
Appendix A.

UNIVERSITY OF DELHI.

Copy of a letter No. F. 59-6/41 E., dated the 25th October 1943, from the Joint Secretary to the Government of India, Department of Education, Health and Lands, to the Chief Commissioner, Delhi.

LAND REQUIRED FOR THE DELHI UNIVERSITY.

I am directed to refer to the correspondence ending with your letter No. F. 12 (150)/43-L.S.G. dated the 8th September 1943, and to state that with a view to ensure that no unseemly buildings are erected in the neighbourhood of the Delhi University and its Colleges located on the Old Viceregal Lodge Estate the Government of India have decided that an area of approximately 582.44 acres as shown in the enclosed map (marked D U. I-A) should be considered to be the University enclave and that building operation in this area and its neighbourhood should be subject to the following conditions:—

- (a) The area of 81.78 acres (coloured yellow in the map) should be considered to be a protective belt and the Civil Station Notified Area Committee and the Delhi Improvement Trust should consult the University before building plans are approved by them in respect of land under their control and the President of the Delhi Municipal Committee should be asked to ensure that buildings erected on the land under the Committee's control are of good type.
- (b) The Civil Station Notified Area Committee should inform the University of all applications for permission to construct additional buildings in the area of 25.78 acres (in the north of the proposed enclave) which is under private ownership, so that the University may have an opportunity of considering whether it may not desire to acquire the sites by purchase.
- (c) The Delhi Improvement Trust should inform the University of any scheme which the Trust might contemplate for the



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development of the areas adjoining the enclave at the North-Western corner and on the other side of the Mall, so as to enable the University to make any representations which it might consider necessary, against any proposed user of the land.

2. I am to add that the constitution of the enclave does not commit the Government to the actual transfer to the University or to any of its Colleges of any portion of the land included in the enclave, which has not already been specifically transferred to the University or to any of the Colleges. Proposals for the transfer of additional areas to the University or any of the Colleges will be considered on their merits and the transfer of any portion of the land shown as belonging to the Defence Department will be subject to the further condition that that Department is able to release the land.

3. I am to request that the actual area of the enclave and the areas of the portions under the control of different authorities may be measured accurately and that a copy of map as finally drawn up may be furnished to the different authorities concerned (including the Delhi University) together with a copy of the orders of the Government of India for their guidance. Eight copies of the map may also be furnished to this Department for distribution to the other Departments concerned.

4. The plan received with your letter of the 8th September 1948 is returned herewith. I am to draw your attention in this connection to the fact that this map does not correctly show the extent of the land intended for the University and the Colleges. A reference to map D. U. I-A, which was received with your letter No. F. 12 (62)/41-L. S. G. dated the 30th June 1941, will show that the south boundary of this land continues beyond the Rajpur Quarters up to the Najafgarh Out, following the irregular line shown in the plan received from you as marking the northern boundary of the Delhi Improvement Trust's land. The plan should be corrected accordingly.

5. Plans marked D. U. No. 1 and D. U. 1-B which were received with your letter of the 30th June, 1941 are also returned herewith. It is requested that 8 copies of these two maps also may be furnished to this Department.

T.C
A.

ANNEXURE 10

Master Plan for Delhi-2021

(Incorporating modifications up to 31st March, 2017)

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DELHI DEVELOPMENT AUTHORITY

Draft compilation for reference only

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MASTER PLAN FOR DELHI – 2021

Prepared by Delhi Development Authority and approved by the Central Government under Section 11A(2) of Delhi Development Act 1957 and notified on **7th February 2007** (The Gazette of India, Extraordinary, Part II–Section 3 Subsection (ii) No. 125 (Magha 18, 1928) vide S.O. 141- (E).

- Reprinted edition dated May 2010 incorporates Gazette notifications of amendments / modifications up to October 2009.
- **Draft incorporating modifications notified by Central Government upto 31 March, 2017 for reference only.**
- **In case of any legal / official purpose, notifications issued by Central Government to be referred.**



DELHI DEVELOPMENT AUTHORITY

MPD-2021 modified upto 31/03/2017

MASTER PLAN FOR DELHI – 2021

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| 2. | Population and Employment | 2-1—2-3 | |
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MPD-2021 modified upto 31/03/2017

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MINISTRY OF URBAN DEVELOPMENT
GOVERNMENT OF INDIA
(Delhi Division)

NOTIFICATION

New Delhi, the 7th February, 2007

- S.O. 141.-(E) *Whereas extensive modifications which the Central Government proposed to make in the Master Plan for Delhi keeping in view the perspective for Delhi for the year 2021 and growing new dimensions in urban development were published vide Public Notice in the Gazette of India Extraordinary S.O. No. 318(E) dated 16th March, 2005 by the Delhi Development Authority inviting objections/ suggestions as required by sub-section (3) of Section 11-A of the Delhi Development Act, 1957 (61 of 1957), within ninety days from the date of the said notice.*
2. *Whereas, the objections/suggestions received with regard to the said public notice have been considered by a Board of Enquiry set up by the Delhi Development Authority and also by the Delhi Development Authority, and the Central Government has, after carefully considering all aspects of the matter, decided to extensively modify the Master Plan for Delhi.*
3. *Now, therefore, in exercise of the powers conferred by sub-section (2) of Section 11-A of the said Act, the Central Government hereby approves the Master Plan for Delhi with the perspective for the year 2021, as an extensive modification to the Master Plan for Delhi with perspective for the year 2001, as notified vide Ministry of Urban Development Notification S.O. No. 606 (E) dated 1.8.1990 along with all the amendments carried out till date therein. The said Master Plan for Delhi with perspective for the 2021 as notified herein shall come into effect from the date of Publication of this Notification in the Gazette of India.*

MPD-2021 modified upto 31/03/2017

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11.2 VISUAL INTEGRATION

Delhi has a tremendous diversity of built form, color, scale and texture with a heterogeneous end product from aesthetic point of view. Visual integration can possibly be achieved by identifying features such as appropriately conserved historic buildings and heritage zones, which integrate and provide strong visual identity.

The important mass movement corridors i.e., Ring road / Outer ring road and major radials are used by city dwellers for internal city commuting. These corridors along with newly introduced MRTS corridors have potential to acquire an additional dimension of visual quality and integration. The studies and proposals for ring road and MRTS corridors should be formulated to improve, geometry, landscaping, street furniture, signage, introduction of urban forms at selected points and clearance of unsightly developments.

Other important elements for the integration of different parts of the city, planned at different times are (i) flora i.e. tree plantation, (ii) linking open spaces and (iii) harmonious treatment for major ecological features i.e. the Ridge and the River Yamuna.

11.3 TALL BUILDINGS

The height of buildings (above and below the ground) needs to be seen in the light of modern technology with due consideration for natural disasters like earthquakes, floods etc.

Restrictions on tall buildings would be necessary in important areas like Lutyen's Bungalow Zone, Civil lines and North Delhi campus. In case of Urban Extension, areas for specific Urban Design projects and tall buildings should be identified.

11.4 URBAN CORRIDORS

Delhi with huge intra city trip lengths and increasing number of personalized vehicles, few imperatives cannot be ignored for its sustainable and healthy growth, such as more dependency on efficient, convenient and safe modes of public transport, linking large number of work centres with residential areas and overall disincentives for the private vehicle ownership.

11.4.1 CITY GATEWAYS

1. Road:

- i) Non-residential public buildings with pleasing appearance should be located on entry corridors.
- ii) Attractive landscape should be developed in accordance with the highway landscape norms.
- iii) Segregation of goods and passenger vehicles at the entry point through separate lanes to improve the visual environment.

2. Rail:

- i) Enhancing visual experience for commuters through appropriate landscape along railway tracks.
- ii) Reconstruction / redevelopment of existing stations should be undertaken through comprehensive Urban Design schemes.
- iii) Attractive designs should be evolved for new stations.

V

ANNEXURE ~~14~~ **11**

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Annexure Report

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ए.के. बजाज
A.K. BAJAJ
संनियन्ता सदस्य,
Engineer Member

प्राधिकरण
DELHI DEVELOPMENT AUTHORITY
विकास भवन, नई दिल्ली-110023
Vikas Sadan, New Delhi-110023
Phone : 24692174, 24620093
Fax : 24624017
E-mail: omdda@dda.org.in

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No. **EM/3(23)99/PE/LS/1514**

Dated: **27-4-10**

A report of EM, DDA on the proposed high rise residential Development at Mall Road near Vishwa Vidyalaya Metro Station near Delhi University (North Campus).

In the authority's meeting dated 17/2/2010, Hon'ble Lt. Governor, Delhi constituted a committee under the chairmanship of EM, DDA with Chief Town Planner, MCD and Chief Engineer, DMRC as members to survey the entire area and examine the implications of construction of high rise buildings, on the privacy and integrity of Delhi University environment. He directed the committee to submit its report within a week.

The committee conducted its joint inspection on 29/3/2010. All the three members went around the entire Delhi University area on the western side of the Ring Road. The entire Delhi University Campus consist of mainly single storey / double storey buildings except few buildings which 3 & 4 storied on its southern end, near Delhi School of Social Sciences.

The entire campus is covered with thick greenery / tree cover around most of the buildings. Most of the roads are two lane single carriageway roads. On the eastern side of the Ring Road, there is private residential area and most of it is plotted development. On the eastern side of the Ring Road there is only one building which is 8 storied (Revera Apartments) and all other buildings are 3-5 storied. The ground level of the area on eastern side is low as compared to the ground level on the western side.

After going around the entire University Campus on two lane roads, it found that the general ambience is quite with single / 2 storied buildings most of the places. Any intervention at the 'door step' of Delhi University, constructing a high rise building of 8 stories, or so will amount to a great intervention on the ambience of Delhi University and will add to a considerable traffic load on two lane roads of Delhi University which will further affect tranquil ambience of the campus.

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दिनांक: 22/4/10

This report is also to be in part of Agenda for the A on the forum of

AC/III

27/5/10

22/4/10

DUT (N)/C Zone

27/11

27

27

The construction of high rise buildings will definitely affect the privacy and integrity of Delhi University. Quite ambience of Delhi University will further be affected by considerable addition of traffic load which will be generated with coming up of the high rise buildings.

Since there was no agreement between the members of the committee, a separate report is submitted by the EM, DDA.

(A.K. Bajaj)
Engineer Member, DDA.

Shri Ashok Kumar,
Vice-Chairman, DDA,
Vikas Sadan, INA,
New Delhi.

Copy to:-

1. Add. Secretary to LG, Delhi, Raj Niwas, Delhi.
2. Pr. Commissioner-cum-Secretary, DDA for information and necessary action.
3. Shri S. Jethwani, Chief Engineer/PD, Delhi Metro Rail Corporation Ltd. Metro bhawan, Fire brigade lane, Barakhamba Road, New Delhi-110001.

Engineer Member, DDA.

ANNEXURE-12~~20~~~~10~~

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FORM - IA

w.r.t.

**AMENDMENT IN EC OF GROUP
HOUSING COMPLEX**

At

**1 & 3 Cavalry Lane & 4, Chhatra Marg at
Civil Lines (Adjoining Vishwa Vidyalaya
Metro Station), Delhi**

For

M/s. Young Builders (P) Ltd.

Schedule: 8 (a)



Prepared By

GRASS ROOTS RESEARCH & CREATION INDIA (P) LTD.

(Accredited by QCI / NABET: Approved by MoEFCC, GoI, An ISO 9001:2008 Certified Co.)

F-374-375, Sector-63, Noida, U.P.

Ph.: 0120- 4044630, Telefax: 0120- 2406519

Email: eia@grc-india.com, grc.enviro@gmail.comWebsite: <http://www.grc-india.com>**GRC INDIA TRAINING & ANALYTICAL LABORATORY**

(Accredited by NABL & Recognized by MoEFCC, GoI)

A unit of GRC India

February 2018

RB

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DATE

Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi

FORM IA

FORM IA

CHECK LIST OF ENVIRONMENTAL IMPACTS

(Project proponents are required to provide full information and wherever necessary attach explanatory notes with the Form and submit along with environmental management plan & monitoring program)

SECTION 1- LAND ENVIRONMENT

(Attach panoramic view of the project site and the vicinity)

1.1 Will the existing land use get significantly altered from the project that is consistent with the surroundings? (Proposed land use must conform to the approved Master Plan/Development Plan of the area. Change of land use, if any and the statutory approval from the competent authority are submitted). Attach Maps of (i) site location, (ii) surrounding features of the proposed site (within 500 meters) and (iii) the site (indicating levels & contours) to appropriate scales. If not available attach only conceptual plans.

➤ No

The project site is vacant land. It is anticipated that the construction activities of the project will not have an adverse effect on the land use activities in the project area. Freehold land of the project is owned and assembled by M/s. Young Builders (P) Ltd. and land use of the same is earmarked for residential development as per the Master Plan 2021 issued by Delhi Development Authority.

The Group Housing Complex will be constructed by M/s. Young Builders (P) Ltd. The company has proposed Amendment in EC of Group Housing Complex located at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines (Adjoining Vishwa Vidyalaya Metro Station), Delhi for which Environmental Clearance has been obtained for a Built Up area of 70,265.95 m² vide EC letter no DPCC/SEAC/50/SEIAA/1/2012 dated 13th August, 2012. However, we are going for

M/s. Young Builders (P) Ltd.

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*Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi*

FORM 1A

Amendment in EC now, with a proposed Built- Up Area (including EC Accorded as well as Amended Area) of 1,17,733.81 m².

The project site is well connected through NH-1. The nearest highway is NH-1 which is approx. 35m away from project site towards North direction. The nearest Railway Station is Old Delhi Railway Station, which is approx. 4.0 km away from the project site towards (SSE). The nearest airport is Indira Gandhi International Airport, at 19.0 km (SW) from the project site.

Google Earth image and Toposheet showing site & surroundings within 500 m and 10 & 15 km is enclosed as Annexure I (a) & I (b).

1.2 List out all the major project requirements in terms of the land area, built up area, water consumption, power requirement, connectivity, community facilities, parking needs etc.

➤ LAND REQUIREMENT

Table 1: Area Statement (EC Accorded + Amended Area)

| S. No. | PARTICULARS | EC Accorded Area (Sq.m.) | Amended Area (Sq.m.) | Total Area (EC Accorded + Amended Area) (Sq.m.) | Percentage (%) |
|--------|---|--------------------------|----------------------|---|----------------|
| 1. | Plot Area | | 20,000 | | 100 |
| 2. | Permissible Ground Coverage | 6,666 | 0 | 6,666 | |
| 3. | Proposed Ground Coverage | 2,130.64 | -249.04 | 1,881.6 | |
| 4. | Permissible FAR | 46,600 | -6,100 | 40,500 | |
| 5. | Proposed FAR | 46,156.72 (inc. EWS FAR) | -5,658.13 | 40,498.59 | |
| 6. | Permissible EWS FAR (minimum 15% of FAR, Free from FAR) | -- | 6,000 | 6,000 | |

M/s. Young Builders (P) Ltd.

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**Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi**

FORM 1A

| | | | | | |
|-----|---|-----------|-----------|-------------|--|
| 7. | Proposed FAR for EWS | -- | 8,306.52 | 8,306.52 | |
| 8. | Non FAR Area | | | | |
| | • Area free of FAR in Towers, Club & EWS inc. Balconies, Mumty, Staircases, Fire Tower, Fire Check Floor, Ground Floor Lobbies etc. | -- | 22,874.44 | 22,874.44 | |
| | • GF Podium area | -- | 6,493.24 | 6,493.24 | |
| | • FF Podium area | -- | 7,210.07 | 7,210.07 | |
| | • SF Stilt area | 586.41 | 24.29 | 610.7 | |
| 9. | Lower & Upper Basement Area (Non FAR) | 23,522.92 | 8,217.34 | 31,740.26 | |
| 10. | Total Built Up Area | 70,265.95 | 47,467.86 | 1,17,733.81 | |
| 11. | Landscape area | 8,373.75 | -4,961.78 | 3,411.97 | |
| 12. | Building Heights (in m) (Building Top level) | 117 | 22.6 | 139.6 | |

*FAR = Floor Area Ratio

Table 2: Built-up Area Breakup (EC Accorded + Amended Area)

| S. No. | PARTICULARS | EC Accorded Area (Sq. m.) | Amended Area (Sq. m.) | Total Area (EC Accorded + Amended Area) (Sq. m.) |
|--------|-----------------------------|--------------------------------|-----------------------|--|
| 1. | Proposed FAR | 46,156.72 (inc. FAR of EWS) | -5658.13 | 40,498.59 |
| 2. | Proposed FAR for EWS | -- | 8,306.52 | 8,306.52 |
| 3. | Non FAR | 586.41 | 36,602.04 | 37,188.45 |
| 4. | Lower & Upper Basement Area | 23,522.92 | 8,217.34 | 31,740.26 |

M/s. Young Builders (P) Ltd.

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*Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi*

FORM 1A

| | (Non FAR) | | | |
|----|---------------|-----------|-----------|-------------|
| 5. | Built Up Area | 70,265.95 | 47,467.86 | 1,17,733.81 |

➤ WATER REQUIREMENT

The total water requirement will be approx. 224 KLD, out of which total domestic water requirement will be 214 KLD. The fresh water requirement will be approx. 157 KLD (which is 70% of the domestic water demand). Water will be supplied by Delhi Jal Board in operational phase.

➤ POWER REQUIREMENT

The power supply shall be supplied by North Delhi Power Limited (NDPL). The connected load by the Amendment in EC of Group Housing Complex will be approx. 2808 KW.

Details of D.G Set

There is provision of 3 no. of DG sets of 4500 kVA (3 X 1500 kVA) capacity for power back up in the Group Housing Complex. 1 DG Set will be on standby mode. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion.

➤ CONNECTIVITY

The project site is well connected through NH-1 which is approx. 35m away from project site towards North direction. The nearest railway station is Old Delhi Railway Station, which is approx. 4.0 km away from the project site towards (SSE). The nearest airport is Indira Gandhi International Airport, at 19.0 km (SW) from the project site.

➤ PARKING FACILITIES

Adequate parking (854 ECS) provision will be kept for vehicles parking in the project. Besides this, internal road of adequate width within the project will facilitate smooth traffic movement.

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*Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi*

FORM IA

1.3 What are the likely impacts of the proposed activity on the existing facilities adjacent to the proposed site? (Such as open spaces, community facilities, details of the existing land use and disturbance to the local ecology).

The project being a well planned activity will result in organized open spaces and green areas. About 3,411.97 m² of the area is earmarked for landscaping. The project will have an overall positive impact on the existing land use and will not cause any disturbance to the local ecology. Proposed activity shall have no impact on surroundings.

1.4 Will there be any significant land disturbance resulting in erosion, subsidence & instability? (Detail of soil type slope analysis, vulnerability to subsidence, seismicity etc may be given).

There shall be no land disturbance resulting in erosion, subsidence and instability as it is a flat land. The site falls under the zone IV as per the seismic zone map of India and indicating high damage risk zone. The project will be earthquake resistant taking into account the latest provisions of Indian Standards Codes.

1.5 Will the proposal involve alteration of natural drainage system? (Give details on a contour map showing the natural drainage near the project site).

The project does not intersect any natural drainage route. No perennial or non-perennial drainage system is found to exist in the project area or being obstructed by the project. The surroundings comprise an urbanized stretch. Well planned storm water drainage has been designed to take care of internal storm water drainage. Thus, no impact on the natural drainage system is anticipated.

1.6 What are the quantities of earthwork involved in the construction activity-cutting, filling, reclamation etc. (Give details of the quantities of earthwork involved, transport of fill materials from outside the site etc?)

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**Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi**

FORM IA

The earthwork shall include soil excavation and cutting of the earth. The cut and fill material in the project site is nearly at par and hence the need for movement of soil to and from the site is not anticipated.

1.7 Give details regarding water supply, waste handling etc. during the construction period.

Water requirement during construction phase treated water will be provided through Private water tankers. Wastewater generated during the construction will be disposed off through soak pits. Waste handling during the construction phase shall be done by the site contractor whose responsibility lies with collection and storage of construction and demolition waste generated on the site. All construction wastes generated during construction will be used within the site itself for filling the floors, roads, aggregate for mortar etc. to the extent feasible. Remaining will be sent to the agency for proper disposal.

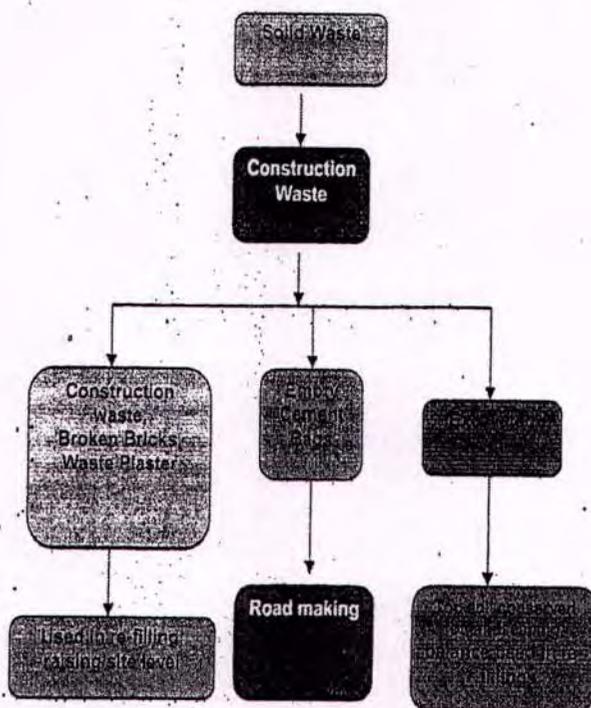


Figure 1: Waste Management Plan for the Construction Phase

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*Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi*

FORM 1A

1.8 Will the low lying areas & wetlands get altered? (Provide details of how low lying and wetlands are getting modified from the proposed activity).

No. The site area is a flat land and the surroundings are characterized by an urbanized stretch. No low lying areas or wetlands are found in the region.

1.9 Whether construction debris & waste during construction cause health hazard? (Give quantities of various types of wastes generated during construction including the construction labor and the means of disposal).

No health hazards are expected during the construction phase. The laborers will be provided with face masks to minimize dust inhalation.

A significant portion of the construction waste and wood scrap generated will be used on the site. The quantity of domestic waste generated will be very little, as mostly local laborers will be employed. However, the wastes generated will be collected and disposed by an authorized agency.

SECTION 2- WATER ENVIRONMENT

2.1 Give the total quantity of water requirement for the project with the breakup of requirements for various uses. How will the water requirement be met? State the sources & quantities and furnish a water balance statement.

The total water requirement is approx. 224 KLD, out of which total domestic water requirement is 214KLD. The fresh water requirement is approx. 157 KLD (which is 70% of the domestic water demand). Total water requirement during operational phase will be supplied by Delhi Jal Board. The daily water requirement calculation is given below in Table 4.

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*Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi*

FORM 1A

Table 3: Comparative Details of Water & Wastewater generated

| Sl. No. | Particulars | EC Accorded (KLD) | Amended | Total (EC Accorded + Amended) (KLD) |
|---------|-------------------------|-------------------|---------|-------------------------------------|
| 1. | Total Water Requirement | 203 | 21 | 224 |
| 3. | Total Fresh Water | 106 | 51 | 157 |
| 4. | Wastewater | 129 | 63 | 192 |
| 5. | STP capacity | 55 | 145 | 200 |

Table 4: Calculations for Daily Water Demand (EC Accorded + Amended)

| S. No. | Description | Area (in m ²) | Total Occupancy | Rate of water demand (lpcd) | Total Water Requirement(KLD) |
|--|--|---------------------------|-----------------|-----------------------------|------------------------------|
| A. | Domestic Water | | | | |
| | I) Residential | | 1,161 | 135 | 157 |
| | II) EWS | | 380 | 135 | 51 |
| | III) Staff @ 5% residential population | | 58 | 45 | 2.6 |
| | Visitors @ 10% residential population | | 116 | 15 | 1.7 |
| | IV) Shops staff @ 2 Persons/Shop | 15 Shops | 30 | 45 | 1.35 |
| | V) Community @ 40 Persons/Building | 1 | 40 | 15 | 0.60 |
| Total Domestic Water (A=I+II+III+IV+V) | | | | | 214.25 KLD or say 214 |
| B. | Horticulture and Landscape Development | 3,411.97 m ² | | 3 lt./sqm/day | 10 |

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*Amendment in EC of Group Housing Complex
 at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
 (Adjoining Vishwa Vidyalaya Metro Station), Delhi*

FORM IA

Grand Total (A+B) = 224 KLD

Table 5: Wastewater Calculations (EC Accorded + Amended)

| | |
|--|--------------------|
| Domestic Water Requirement | 224 KLD |
| • Fresh water (@ 70% of domestic) | 157 KLD |
| • Flushing (@ 30% of domestic) | 67 KLD |
| Waste Water Generated (@ 80% fresh + 100% flushing) | 125 + 67 = 192 KLD |

The water balance diagram during rainy season & non-rainy seasons are shown below in Figure 1 & 2 respectively:

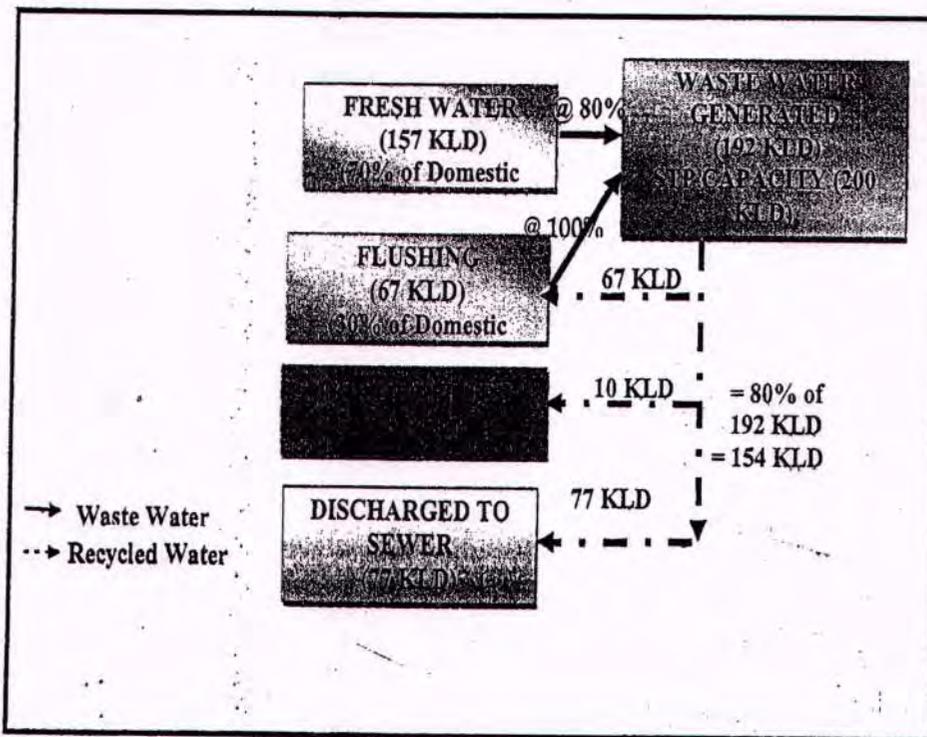


Figure 1: Water Balance Diagram during Non-Rainy Season

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Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi

FORM IA

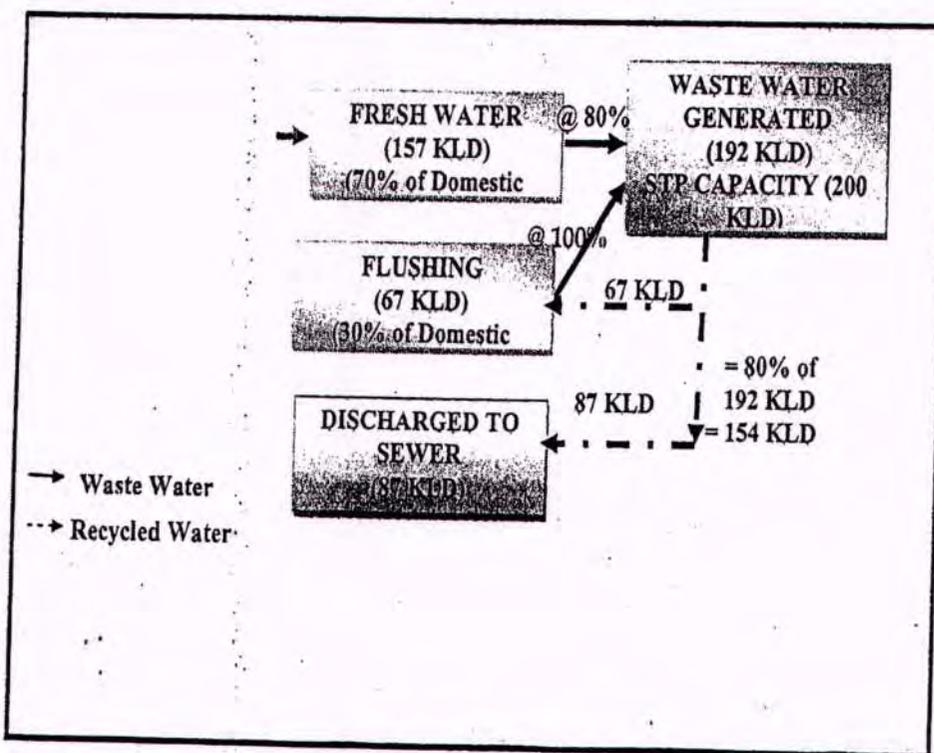


Figure 2: Water Balance Diagram during Rainy Season

2.2 What is the quality of water required, in case, the supply is not from a municipal source? (Provide physical, chemical, Biological characteristics with class of water quality).

As the source of water supply to the project is provided by the private tankers during construction phase and in operational phase it will be supplied by Delhi Jal Board.

2.3 How much of water requirement can be met from the recycling of treated wastewater? (Give the details of quantities, sources and usage).

It is expected that the project will generate approx. 192 KLD of wastewater. The wastewater will be treated in the STP provided within the complex generating 154 KLD of recoverable water from STP which will be recycled within the project but 77 KLD in non-rainy season & 87 KLD

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in rainy season will become surplus and surplus treated water will be discharged to existing sewer in the area.

2.2.1 Will there be diversion of water from other users? (Please assess the impacts of the project on other existing uses and quantities of consumption).

No. There will not be any diversion of water from other users. Rise in water demand is a local phenomenon but the project would only involve spatial shifting of water demand within a region.

2.5 What is the incremental pollution load from wastewater generated from the proposed activity? (Give details of the quantities and composition of wastewater generated from the proposed activity)

Approximately, 192 KLD (@ 80% fresh + 100% flushing) of wastewater will be generated during the operational phase from domestic use and other commercial uses. This wastewater generated will be treated in well designed sewage treatment plant based on fine bubble aeration system technology.

The following are the input characteristics of the waste water:

Wastewater Details

| | | |
|-----------------------------|---|--------------|
| (a) Daily load | : | 192 KLD |
| (b) Duration of flow to STP | : | 24 hours |
| (c) Temperature | : | Maximum 32°C |
| (d) pH | : | 7.5 to 8.5 |
| (e) Colour | : | Mild |
| (f) T.S.S. (mg/l) | : | 200-300 mg/l |
| (g) BOD (mg/l) | : | <300 mg/l |
| (h) COD (mg/l) | : | 600-800 mg/l |



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b. Final discharge characteristics

| | | | |
|-----|------------------------|---|------------|
| (a) | pH | : | 6.0 to 8.0 |
| (b) | Oil & Grease | : | <10 mg/l |
| (c) | B.O.D. | : | <10 mg/l |
| (d) | C.O.D. | : | <30 mg/l |
| (e) | Total Suspended Solids | : | <10 mg/l |

2.6 Give details of the water requirements met from water harvesting? Furnish details of the facilities created.

The storm water disposal system for the premises shall be self-sufficient to avoid any collection/stagnation and flooding of water. The amount of storm water run-off depends upon many factors such as intensity and duration of precipitation, characteristics of the tributary area and the time required for such flow to reach the drains. The drains shall be located near the carriage way along either side of the roads. Taking the advantage of road camber, the rainfall run off from roads shall flow towards the drains. Storm water shall be connected to adjacent drain by a pipe through catch basins. Therefore, it has been calculated to provide 6 rainwater harvesting pits at selected locations, which will catch the maximum run-off from the area.

- 1) Since the existing topography is congenial to surface disposal, a network of storm water pipe drains is planned adjacent to roads. All building roof water will be brought down through rain water pipes.
- 2) Storm water system consists of pipe drain, catch basins and seepage pits at regular intervals for rain water harvesting and ground water recharging.
- 3) For basement parking, the rainwater from ramps will be collected in the basement storm water storage tank. This water will be pumped out to the nearest external storm water drain.
- 4) Peak Hourly Rainfall of 45 mm/hr shall be considered for designing the storm water drainage system.

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Design specifications of the rain water harvesting plan are as follows:

- Catchments/roofs would be accessible for regular cleaning.
- The roof will have smooth, hard and dense surface which is less likely to be damaged allowing release of material into the water. Roof painting has been avoided since most paints contain toxic substances and may peel off.
- All gutter ends will be fitted with a wire mesh screen and a first flush device would be installed. Most of the debris carried by the water from the rooftop like leaves, plastic bags and paper pieces will get arrested by the mesh at the terrace outlet and to prevent contamination by ensuring that the runoff from the first 10-20 minutes of rainfall is flushed off.
- No sewage or wastewater would be admitted into the system.
- No wastewater from areas likely to have oil, grease, or other pollutants has been connected to the system.

Table 6: Comparative Details of Rain Water Harvesting Structures

| | EC Accorded | EC Accorded + Amended |
|---|-------------|-----------------------|
| No. of Rain Water Harvesting structures | 3 Pits | 3 + 3 = 6 Pits |

Calculations for storm water load (EC Accorded + Amended)

$$\text{Roof-top area} = \text{Ground Coverage} = 1881.6 \text{ m}^2$$

$$\text{Green Area} = 3411.97 \text{ m}^2$$

$$\text{Paved Area} = \text{Total Plot Area} - (\text{Roof-top Area} + \text{Green Area})$$

$$= 20,000 - (1881.6 + 3411.97)$$

$$= 14,706.43 \text{ m}^2$$

Runoff Load

$$\text{Roof-top Area} = 1881.6 \times 0.045 \times 0.8$$

$$= 67.74 \text{ m}^3/\text{hr}$$

$$\text{Green Area} = 3411.97 \times 0.045 \times 0.1$$

$$= 15.35 \text{ m}^3/\text{hr}$$

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Paved Area = $14,706.43 \times 0.045 \times 0.75$
= $496.34 \text{ m}^3/\text{hr}$

Total Runoff Load = $67.74 + 15.35 + 496.34 \text{ m}^3/\text{hr}$
= $579.43 \text{ m}^3/\text{hr}$

Taking 15 minutes Retention Time, Total volume of storm water = $579.43/4$
= 144.85 m^3

Considering the radius and depth of a Recharge pit 1.5 m and 3.5 m respectively, Volume of a single Recharge pit = $\pi r^2 h = 3.14 \times 1.5 \times 1.5 \times 3.5 = 24.72 \text{ m}^3$

Hence No. of pits required = $144.85/24.72 = 5.86$ pits say 6 pits.

Total of 6 Rain Water Harvesting pits in are being proposed for artificial rain water recharge from roof runoff within the project premises.

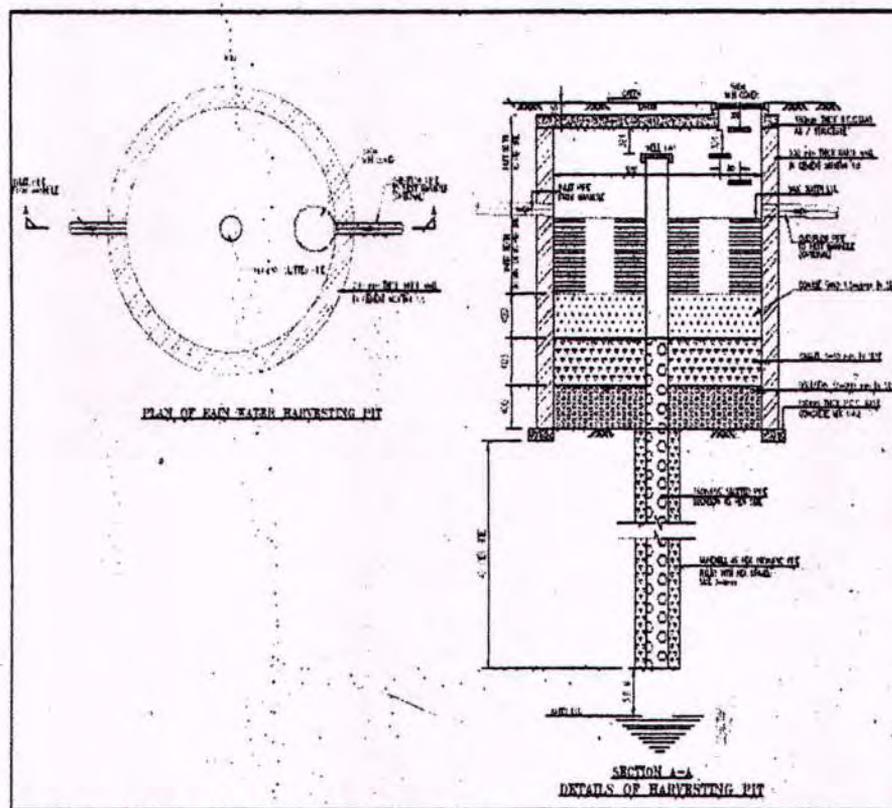


Figure 4: Typical Rain Water Harvesting Pit Design

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2.7 What would be the impact of the land use changes occurring due to the project on the runoff characteristics (quantitative as well as qualitative) of the area in the post construction phase on a long term basis? Would it aggravate the problems of flooding or water logging in any way?

The project will include paved areas and thus the runoff from the plot is expected to increase due to reduced infiltration. However, the increased runoff will not cause flooding or water logging as a well designed storm water drainage will be provided. The runoff will finally be collected into rainwater harvesting pit for groundwater recharge and RWH tank for storage. The quality of the runoff is expected to improve due to paved areas.

2.8 What are the impacts of the proposal on the ground water? (will there be tapping of ground water; give the details of ground water table, recharging capacity and approvals obtained from competent authority, if any)

Water demand will be fulfilled from Private tankers. To reduce the freshwater demand, treated water will be used for landscaping and flushing and surplus treated water 77KLD (non-rainy season) and 87 KLD (rainy season) will be discharged to existing sewer in the area.

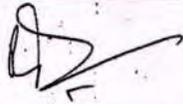
2.9 What precautions/ measures have been proposed to check the surface run-off, as well as uncontrolled flow of water into any water body?

The following management measures are suggested to protect the water quality are:

- Avoid excavation during monsoon season.
- Community toilets shall be constructed on the site during construction phase and the wastewater will be channelized to the septic tank in order to prevent wastewater from entering the water bodies.

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- To prevent surface and ground water contamination by oil/grease, leak proof containers would be used for storage and transportation of oil/grease. The floors of oil/grease handling area would be kept effectively impervious.
- Collection and settling in the storm water, prohibition of equipment wash downs, and prevention of soil loss and toxic release from the construction site will be adhered to minimize water pollution.

2.10 How is the storm water from within the site managed? (State the provisions made to avoid flooding of the area, details of the drainage facilities provided along with a site layout indication contour levels).

Most of the storm water produced on site will be harvested for ground water recharge. Thus proper management of this resource is a must to ensure that it is free of contamination. A detailed Storm Water Management Plan will be developed which will consider the sources of storm water. The plan will incorporate best management practices which will include the following:

- Regular inspection and cleaning of storm drains.
- Installation of clarifiers or Oil/Water separators/traps system of adequate capacity around parking areas and garages as per requirement.
- Avoid application of pesticides and herbicides before wet season.
- Conducting routine inspections to ensure cleanliness.
- Preparation of spill response plans, particularly for fuel and oil storage areas.
- Provision of silt traps in storm water drains.
- Good housekeeping in the above areas.

2.11 Will the deployment of construction laborers particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation).

No, mostly local laborers will be employed during the construction phase and thus negligible quantities of wastes will be generated. Mobile toilets will be provided and the wastewater

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generated will be collected in septic tanks. Different color bins will be provided to manage different kind of waste to maintain the sanitary conditions of the project site.

2.12 What on-site facilities are provided for the collection, treatment & safe disposal of sewage? (Give details of the quantities of wastewater generation, treatment capacities with technology & facilities for recycling and disposal).

It is expected that the project will generate approx. 192KLD of wastewater which will be treated in STP of capacity 200 KLD. Treated water will be recycled for Landscaping and Flushing in non-rainy season and only for flushing in rainy season. Surplus water will be discharged to existing sewer in the area.

2.13 Give details of dual plumbing system if treated waste used for flushing of toilets or any other use.

Dual plumbing system that utilizes separate piping systems for freshwater and recycled wastewater will be adopted for the project. Treated water from the on-site STP is estimated at 154 KLD. The recycled water system shall utilize this treated waste water and serve for non-contact uses such as flushing & horticulture and rest will be discharged to existing sewer in the area.

3. VEGETATION

3.1 Is there any threat of the project to the biodiversity? (Give a description of the local ecosystem with its unique features, if any).

No ecologically sensitive area falls within the project site. Hence, no ecological/ biological threat has been anticipated.

3.2 Will the construction involve extensive clearing or modification of vegetation? (Provide a detailed account of the trees & vegetation affected by the project).

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The project does not support any significant vegetation. It is proposed to develop a peripheral greenbelt of native plant species to enhance the aesthetic value of the region and also provide an excellent habitat for various faunal groups. Evergreen tall and ornamental trees and ornamental shrubs have been proposed to be planted inside the premises. Parks will also be developed by the project proponent.

3.3 What are the measures proposed to be taken to minimize the likely impacts on important site – features (Give details of proposal for tree plantation, landscaping creation of water bodies etc along with a layout plan to an appropriate scale?)

Green belt will be developed along the periphery of the project premises along with the internal parks and lawns 3,411.97 m² will be developed as green belt and organized green spaces.

4. FAUNA

4.1 Is there likely to be any displacement of fauna both terrestrial and aquatic or creation of barriers for their movement? Provide the details.

No. The existing land use around the site is urban and does not provide a habitat for wild species. The peripheral greenbelt will provide an excellent habitat for the native fauna.

4.2 Any direct or indirect impacts on the avifauna of the area? Provide details.

The project will not have any direct or indirect impacts on the avifauna of the area. However, planting of fruit bearing trees in the greenbelt will be an attraction to the local bird population.

4.3 Prescribe measures such as corridors, fish ladders etc. to mitigate adverse impacts on fauna.

Not applicable

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5. AIR ENVIRONMENT

5.1 Will the project increase atmospheric concentration of gases & result in heat islands? (Give details of background air quality levels with predicted values based on dispersion models taking into account the increased traffic generation as a result of the proposed construction).

Ambient air monitoring will be carried out during detailed EIA/EMP studies.

From vehicular emissions, PM, NO_x and CO are pollutants of primary concern. The dispersion of vehicular emissions would be confined within 100m from the road and concentration will decrease with the increase in distance from road. It is anticipated that the contribution of vehicular emissions in ambient air quality will be marginal but well within the stipulated National Ambient. At higher wind speed dispersion will be faster.

Mitigation Measures: The Group Housing Complex will develop a green belt inside the premises of the project site and along the internal road, which will work as barrier for the movement of pollutants and help in pollution control.

5.2 What are the impacts on generation of dust, smoke, odorous fumes or other hazardous gases? Give details in relation to all the meteorological parameters.

Source of pollution:-

- DG set running
- Vehicular movement

Impacts on Air Quality due to DG Sets and vehicular emissions:

- Impacts on ambient air during operation phase would be due to emissions from the stacks attached to backup DG sets only during grid power failure.
- Increase of CO level in the basement.

Mitigation Measures for Impacts of DG Sets and other vehicular emissions on Ambient Air Quality:

- Back up DG sets will comply with the applicable emission norms.
- Adequate stack height for DG sets will be provided as per norms.

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- Back up DG sets will be used only during power failure.
- Monitoring of emissions from DG sets and ambient air quality will be carried out as per norms.

Being a small construction project, it comes under 8(a) schedule of EIA notification 2006, so emissions will be negligible and under prescribed limits.

5.3 Will the proposal create shortage of parking space for vehicles? Furnish details of the present level of transport infrastructure and measures proposed for improvement including the traffic management at the entry and exit to the project site.

Adequate provision will be made for car/vehicle parking at the project site. There shall also be adequate parking provisions for visitors so as not to disturb the traffic and allow smooth movement at the site.

Table 7: Comparative details of parking facilities

| | EC Accorded | Amended | Total (EC Accorded + Amended) |
|------------------|-------------|---------|-------------------------------|
| Parking Proposed | 922 ECS | -68 ECS | 854 ECS |

Parking Required (EC Accorded + Amended Area):

As per MoEF Norms:

| | | |
|--|---|------------------------------|
| For residential facilities | = | 1 ECS/100 m ² FAR |
| | = | 48,805.59 /100 = 488 ECS |
| Total parking required as per MoEF Norms | = | 488 ECS |

As per MPD 2021:

| | | |
|--|---|-------------------------------|
| For residential facilities | = | 2 ECS/100 m ² FAR |
| | = | 40,498.59 /50 = 810 ECS |
| For EWS | = | 0.5 ECS/50 m ² FAR |
| | = | 8,306.52/200 = 42 ECS |
| Total parking required as per UBBL Norms | = | 852 ECS |

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Parking Proposed:

Area proposed for Upper Basement parking = 13,620.13 m²

Minimum Area required for 1 ECS of Basement parking = 32 m²

Total parking proposed in upper basement = 187 ECS

Area proposed for Lower Basement parking = 13,620.13 m²

Minimum Area required for 1 ECS of Basement parking = 32 m²

Total parking proposed in lower basement = 186 ECS

Area proposed for Podium Level 1 parking inc. staircase,
ramps & lobbies, stack parking = 6,493.24 m²

Minimum Area required for 1 ECS of Podium Level 1 parking = 28 m²

Total parking proposed in Podium Level 1 = 235 ECS

Area proposed for Podium Level 2 parking inc. staircase, = 7,210.07 m²

ramps & lobbies, stack parking

Minimum Area required for 1 ECS of Podium Level 2 parking = 28 m²

Total parking proposed in Podium Level 2 = 246 ECS

Total Parking proposed = 187+186+235+246

= 854 ECS

Out of which, 5% of the parking has been reserved for physically handicapped.

5.4 Provide details of the movement patterns with internal roads, bicycle tracks, pedestrian pathways, footpaths etc, with areas under each category.

Internal roads of adequate width, footpaths/pedestrian pathways have been well planned for the project.

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5.5 Will there be significant increase in traffic noise & vibrations? Give details of the sources and the measures proposed for mitigation of the above.

No significant impact of noise has been anticipated within and outside of the project site due to provision of wide roads for smooth flow of traffic and greenbelt along the roads. Noise, due to the traffic, within site, will result in a marginal increase in the noise levels because noise control measures shall be provided in vehicles & DG sets as mentioned below, which will cause slight increase in noise level.

5.6 What will be the impact of D.G. sets and other equipment on noise levels and vibration in ambient air quality around the project site? Provide details.

During operation, vehicular movement and operation of DG set are the major sources of noise pollution. But both these activities- DG set and vehicular movement will not have any significant impact on the people residing in the area. Since DG set will not be operational continuously and moreover it will be placed away from residential settlements and will be enclosed with suitable enclosures, hence no or minimal impact will be anticipated. It is envisaged that the movement of the motor vehicles will be restricted to designated carriageways only.

Impacts on Air Quality due to DG Set:

- Impacts on ambient air during operation phase would be due to emissions from the stacks attached to backup DG set only during grid power failure.

Mitigation Measures for Impacts of DG Set on Ambient Air Quality:

- Backup DG set will comply with the applicable emission norms.
- Adequate stack height for DG set will be provided as per norms.
- Backup DG set will be used only during power failure.
- Monitoring of emissions from DG set and ambient air quality will be carried out as per norms.

Noise Control Measures for DG set:

- DG room will be provided with acoustic lining / treatment to insure 25 dB (A) insertion loss as per the regulations.
- Adequate exhaust mufflers will be provided as per norms to limit the noise.

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6. AESTHETICS

6.1 Will the proposed construction in any way result in the obstruction of a view, scenic amenity or landscapes? Are these considerations taken into account by the proponents?

The site lies in an urbanized settlement and is well planned. Thus, no obstruction of view or scenic beauty or landscape is anticipated. Furthermore, the construction will be planned in such a way that the organized open spaces and landscaped areas will render the plot aesthetically appealing.

6.2 Will there be any adverse impacts from new constructions on the existing structures? What are the considerations taken into account?

No impacts anticipated.

6.3 Whether there are any local considerations of urban form & urban design influencing the design criteria? They may be explicitly spelt out.

The project will strictly follow the Area Building Regulation of NBC. All norms on Ground Coverage, FAR, Height, Setbacks, Fire Safety Requirements, Structural Design and other parameters will be strictly adhered to.

6.4 Are there any anthropological or archaeological sites or artifacts nearby? State if any other significant features in the vicinity of the site have been considered?

Two archaeological sites or artifacts are found near the site area i.e. Red Fort and Safdarjung Tomb

7. SOCIO-ECONOMIC ASPECTS

7.1 Will the proposal result in any changes to the demographic structure of local population? Provide the details.

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No such changes anticipated.

Construction phase: Since local labourers will be engaged during construction phase, alteration to the existing demographic profile of the area is not anticipated.

Operation phase: The changing demography in the area is another impact that needs attention. The project will mainly lead to spatial redistribution of local population and hence no considerable influx of population is envisaged owing to the project.

7.2 Give details of the existing social infrastructure around the project.

The project site is well connected through NH-1. The nearest highway is NH-1 which is approx. 35m away from project site towards North direction. The nearest railway station is Old Delhi Railway Station, which is approx. 4.0 km away from the project site towards (SSE). The nearest airport is Indira Gandhi International Airport, at 19.0 km (SW) from the project site.

7.3 Will the project cause adverse effects on local communities, disturbance to sacred sites or other cultural values? What are the safeguards proposed?

Construction phase: There are religious sites or archeological monuments of historical significance are present near the project site. No adverse impact in this regard is anticipated. Rather, this phase will generate jobs that relate to unskilled, semi skilled as well as skilled labour category. Few supervisory positions will also open up, for which local candidates will be considered based on merit.

Operation phase: The project will provide state-of-the-art housing facility in the area, thereby improving the quality of life. The Amendment in Group Housing Complex of such scale will also boost the local economy.

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8. BUILDING MATERIALS

8.1 May involve the use of building materials with high embodied energy. Are the construction materials produced with energy efficient processes? (Give details of energy conservation measures in the selection of building materials and their energy efficiency)
For the purpose of paved path, sun dried pavers will be used instead of baked pavers as they are manufactured through energy efficient processes.

8.2 Transport and handling of materials during construction may results in pollution, noise and public nuisance. What measures are taken to minimize the impacts?

Mitigation Measures for Air Pollution during Construction Stage:

- Construction materials will be suitably covered with tarpaulin cover etc during transportation.
- Water sprinkling shall be done on haul roads where dust generation is anticipated.
- Raw material storage and handling yard will be enclosed from all sides.
- To minimize the occupational health hazard, proper personal protective gears i.e. mask shall be provided to the workers working in the dust prone areas.

Mitigation Measures for Noise Pollution during Construction Stage:

- Administrative as well as engineering control of noise will be implemented.
- Isolation of noise generation sources and temporal differentiation of noise generating activities will ensure minimum noise at receiver's end.
- To prevent any occupational hazard, earmuff / earplug shall be given to the workers working around construction plant & machinery emitting high noise levels.
- Use of such plant or machinery shall not be allowed during night time. Careful planning of machinery operation and scheduling of operations shall be done to minimise such impact.

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8.3 Are recycled materials used in roads and structures? State the extent of savings achieved?

Yes, for road construction fly-ash will be utilized. Recycled materials will be bought from outside sources and will be used as fillers in base and sub-base of the carriageway, footpaths pavements or pedestrian way, as needed.

8.4 Give detail of the methods of collection, segregation & disposal of the garbage generated during the operation phases of the project.

The solid waste of the project will be segregated into biodegradable and recyclable waste. Biodegradable waste and recyclable waste will be collected in separate bins. Biodegradable waste will be treated in the project premises by organic waste converter. The recyclable wastes will be sent off to recyclers. Proper guidelines for segregation, collection and storage will be prepared as per Municipal Solid Wastes (Management and Handling) Rules, 2016.

❖ Collection and Segregation of waste

1. A door to door collection system will be provided for collection of domestic waste in plastic bags from household units.
2. The local vendors will be hired to provide separate colored bins for dry recyclables and Bio-Degradable waste.
3. For domestic waste collection, adequate number of colored bins (Green, Blue, and Dark Grey bins separate for Bio-degradable and Non, Bio-degradable) are proposed to be provided at the strategic locations of the housing area.
4. Litter bin will also be provided in open areas like parks etc.

❖ Treatment of waste

• Bio-Degradable wastes

1. Bio-degradable waste will be subjected to Organic Waste Converter and the compost/resultant will be used as manure.
2. STP sludge is proposed to be used for horticultural purposes as manure.

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3. Horticultural Waste is proposed to be composted and will be used for gardening purposes.

• **Recyclable wastes**

1. : Grass Recycling – The cropped grass will be spread on the green area. It will act as manure after decomposition.
2. Recyclable wastes like paper, plastic, metals etc. will be sold off to recyclables.

• **Non-Recyclable wastes**

Non-Recyclable wastes will be disposed through Govt. approved agency. Hence, the Municipal Solid Waste Management will be conducted as per the guidelines of Municipal Solid Wastes (Management and Handling) Rules, 2016. E-waste will be managed as per E-waste (Management & Handling Rules, 2011). It will be handed over to Govt. approved vendors.

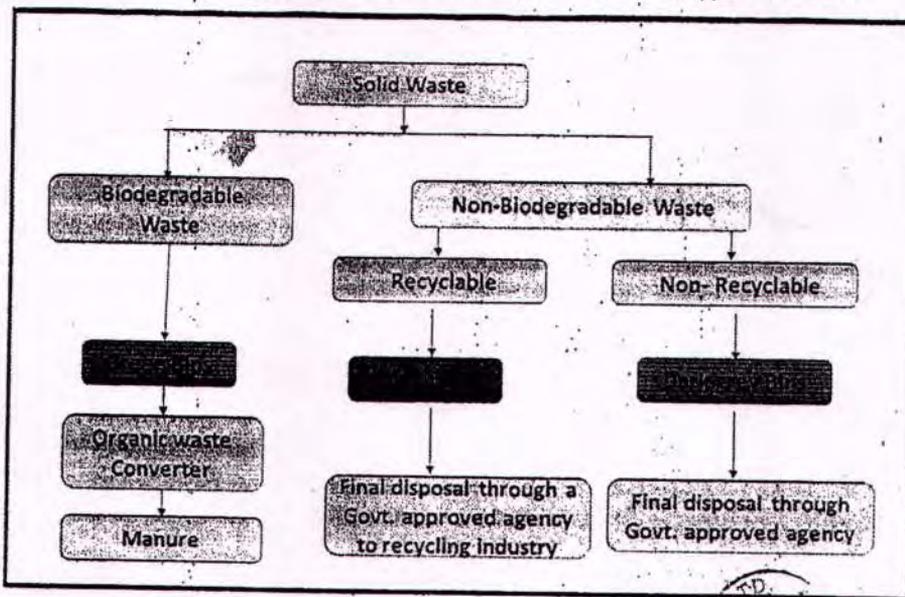


Figure 5: Solid Waste Management Scheme (Operation Phase)



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9. ENERGY CONSERVATION

9.1 Give details of the power requirements, source and supply, backup source etc. What is the energy consumption assumed per square foot of built-up area? How have you tried to minimize energy consumption?

The power supply shall be supplied by North Delhi Power Limited (NDPL). The connected load for the project will be approx. 2808 KW. There is provision of 3 no. of DG sets of 4500 kVA (3 X 1500 kVA) capacity for power back up in the Group Housing Complex. 1 DG Set will be on standby mode. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion. Effective measures have been incorporated to minimize the energy consumption in following manners:

- Solar street lights.
- All internal lighting shall be BEE star rated and solar lit, at least to an extent of 25%.
- Solar street light controllers will be used for automatic dusk to dawn operation of street lights.
- A minimum of 50% hot water requirement shall be met by solar water heating systems.

Integration of automated system to operate electrical equipment as per load requirement to save energy

9.2 What type and capacity of power backup do you plan to provide?

There is provision of 3 no. of DG sets of 4500 kVA (3 X 1500 kVA) capacity for power back up in the Group Housing Complex. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion.

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9.3 What are the characteristics of the glass you plan to use? Provide specifications of its characteristics related to both short wave and long wave radiation?

The project, being Amendment in EC of Group Housing Complex, will involve uses of clear & tinted glass having SHGC of less than $3.11 \text{ w/m}^2 \cdot ^\circ\text{C}$.

9.4 What passive solar architectural features are being used in the building? Illustrate the applications made in the project.

Passive solar design refers to use of the sun's energy for the heating and cooling of living spaces. Pergolas, projections, façade elements, metal louvers will be provided for sun shading to reduce the heat influx into the building and thus reduce the air conditioning loads.

9.5 Does the layout of street & building maximize the potential for solar energy devices? Have you considered the use of street lighting, emergency lighting and solar hot water systems for use in the building complex? Substantiate with details.

Layout of buildings has been done as per the sun path analysis so that the design cuts off direct radiations of critical hours which are specific to the orientation. Solar energy will be harnessed to meet various energy requirements of the project such as:

- Solar street lights.
- Solar blinkers.

9.6 Is the shading effectively used to reduce cooling/heating loads? What principles have been used to maximize the shading of walls on the East and the West and the Roof? How much energy saving has been effected?

Pergolas, projection, façade elements, metal louvers will be provided to reduce cooling loads. Green area and open areas will be so spaced that a reduction in temperature is achieved.

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9.7 Do the structures use energy-efficient space conditioning, lightening and mechanical systems? Provide technical details. Provide details of the transformers and motor efficiencies, lightening intensity and air conditioning load assumption? Are you using CFC and HCFC free chillers? Provide specifications.

Yes. Well designed building structures will allow natural light to enter. Measures prescribed in Energy Conservation Building Code 2017 will be adopted to reduce the heat influx by walls, roofs and openings. Only prescribed quality of glasses will be used.

9.8 What are the likely effects of the building activity in altering the micro-climates? Provide a self assessment on likely impacts of the proposed construction on creation of heat island & inversion effects?

Heat emissions from the construction may be from the following sources:

- Heat absorbed from the paved and concrete structures
- Heat generated from equipment/appliances
- Heat increase due to population increase by the Amendment in EC of Group Housing Complex

However, the heat generated will not be significant and will be dissipated in the greens and open areas provided within the project area.

9.9 What are the thermal characteristics of the building envelope? (a) Roof (b) external walls and (c) fenestration? Give details of the material used and the U value or the R values of the individual components.

The roof tops of the buildings will be planned with puffing/bricks bat coba for water proofing and reflective tiles.

External wall-external opening will have regular door windows with slightly tinted glass. Regular walls have some cladding/fixture paints.

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| S. No. | Component | U-value (W/m ² .°C) | R-value (m ² .°C/W) |
|--------|---------------|--------------------------------|--------------------------------|
| (a) | Roof | < 0.409 | R-2.1 |
| (b) | External wall | < 0.352 | R-2.35 |

9.10 What precautions & safety measures are proposed against fire hazards?
Furnish details of emergency plans.

Firefighting measures shall be adopted as per the guidelines of NBC. External yard hydrants installed around all buildings in the complex and galvanized steel fire hose boxes/cabinet (weather proof). All external yard hydrants shall be at one meter height from finished ground level as per NBC at a distance of 45 m along the road. External fire hydrants shall be located such that no portion of any building is more than 45 m from a hydrant and the external hydrants are not vulnerable to mechanical or vehicular damage.

Fire hydrant system will be provided within the buildings, fire escape staircases and refuge areas will be provided and the building structures will be planned as per NBC. In addition, 10 kg fire extinguishers will be provided for class A, B, and C fires. CO₂ extinguishers will also be provided.

Disaster Management Plan

PRECAUTION & MITIGATORY METHODS TO PREVENT DISASTERS:

- Complex is planned to reduce the impact of disasters and to encourage recovery.
- A disaster management cell would be established which will take care of post disaster scenario.
- It would be a volunteer kind of set-up and professionals can also be hired in case of eventuality.
- Complex management and maintenance agency will prepare an integrated, comprehensive management plan.

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PRECAUTION & MITIGATORY METHODS TO PREVENT DISASTERS:

(Earthquake Management)

- At the time of designing and constructing the building due care would be taken to have earthquake resistant structures which will conform to IS 1983.
- New systems and devices using non-conventional civil engineering materials would be developed to reduce the earthquake forces acting on structure.

PRECAUTION & MITIGATORY METHODS TO PREVENT DISASTERS:

(Fire Hazard)

- Fire safety would be taken into account and would follow all the safety norms and regulations as per the NBC and other related Indian Standards.
- All electrical cables would be underground and sophisticated modern electrical distribution system to reduce risk of fire.
- Special fire fighting equipments like Automatic Fire Detection and alarm system, automatic Sprinkler System etc. would be installed as per the NBC standards.
- Risk assessment with on site disaster management plan will be specified to fire, smoke and other emergency conditions.

9.11 If you are using glass as wall materials, provide details and specifications including emissivity and thermal characteristics.

The project being Group Housing Complex will not involve use of glass as wall material. All fenestration with U-factors, SHGC, or visible light transmittance determined, certified and labeled in accordance ISO 15099 shall be adopted.

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9.12 What is the rate of air infiltration in to the building? Provide details of how you are mitigating the effects of infiltration.

The project will not be centrally air conditioned and hence there will be provision for ample natural ventilation.

9.13 To what extent the non-conventional energy technologies are utilized in the overall energy consumption? Provide details of the renewable energy technologies used.

Solar energy will be variedly used as:

- Solar street lights.
- CFLs will be used in buildings to minimize the energy consumption.
- Green area is provided along with tree plantation which will result in natural air cooling and will reduce the load on conventional energy sources.

10. ENVIRONMENT MANAGEMENT PLAN

The Environment Management Plan (EMP) would consist of all mitigation measures for each component of the environment due to the activities increased during the construction, operation and the entire life cycle to minimize adverse environmental impacts resulting from the activities of the project. It would also delineate the environmental monitoring plan for compliance of various environmental regulations. It will state the steps to be taken in case of emergency such as accidents at the sites including fire. The detailed EMP for the project is given below.

10.1 Environmental Management Plan

The Environment Management Plan (EMP) is a site specific plan developed to ensure that the project is implemented in an environmental sustainable manner where all contractors and subcontractors, including consultants, understand the potential environmental risks arising from the project and take appropriate actions to properly manage that risk. EMP also ensures that the project implementation is carried out in accordance with the design by taking appropriate

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mitigation actions to reduce adverse environmental impacts during its life cycle. The plan outlines existing and potential problems that may adversely impact the environment and recommends corrective measures where required. Also, the plan outlines roles and responsibility of the key personnel and contractors who will be in-charge of the responsibilities to manage the project site.

10.1.1 The EMP is generally

- Prepared in accordance with rules and requirements of the MoEF & CC and CPCB/ SPCB
- To ensure that the component of facility are operated in accordance with the design
- A process that confirms proper operation through supervision and monitoring
- A system that addresses public complaints during construction and operation of the facilities and
- A plan that ensures remedial measures is implemented immediately.

The key benefits of the EMP are that it offers means of managing its environmental performance thereby allowing it to contribute to improved environmental quality. The other benefits include cost control and improved relations with the stakeholders.

EMP includes four major elements:

- Commitment & Policy: The management will strive to provide and implement the Environmental Management Plan that incorporates all issues related to air, water, land and noise.
- Planning: This includes identification of environmental impacts, legal requirements and setting environmental objectives.
- Implementation: This comprises of resources available to the developers, accountability of contractors, training of operational staff associated with environmental control facilities and documentation of measures to be taken.
- Measurement & Evaluation: This includes monitoring, counteractive actions and record keeping.

It is suggested that as part of the EMP, a monitoring committee would be formed by M/s. Young Builders (P) Ltd comprising of the site in-charge/coordinator, environmental group representative

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and project implementation team representative. The committee's role would be to ensure proper operation and management of the EMP including the regulatory compliance.

The components of the environmental management plan, potential impacts arising, out of the project and remediation measures are summarized below in Table 8:



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TABLE 8: SUMMARY OF POTENTIAL IMPACTS AND REMEDIAL MEASURES

| S. No. | Environmental components | Potential Impacts | Potential Source of Impact | Controls EMP & Design | Through Impact Evaluation | Remedial Measures |
|--------|--------------------------|----------------------------|---|---|--|-------------------|
| 1. | Ground Water Quality | Ground Water Contamination | Construction Phase <ul style="list-style-type: none"> Waste water generated from temporary labor tents. | <ul style="list-style-type: none"> No water accumulation will be allowed. Mobile toilets will be provided. Wastewater will be collected in septic tanks. | No significant impact as majority of labors would be locally deployed | |
| 2. | Ground Water Quantity | Ground Water Depletion | Operation Phase <ul style="list-style-type: none"> Sewage Discharge from the project | <ul style="list-style-type: none"> Proponent will provide the STP to treat the discharge of Group Housing Complex. | No negative impact on ground water quality envisaged. Not significant. | |
| | | | Construction Phase <ul style="list-style-type: none"> Ground water | <ul style="list-style-type: none"> Not Applicable | No significant impact on ground water quantity | |

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| | | | | | | | |
|----|-----------------|-------|-----------------------------|--|--|--|------------|
| | | | | will not use during construction phase | | | envisaged. |
| | | | | <p>Operation Phase</p> <ul style="list-style-type: none"> The source of water during reuse. operation phase is taken from Municipal supply. | <ul style="list-style-type: none"> Black and Grey water treatment and reuse. Percolation well to be introduced in landscape plan. Awareness Campaign to reduce the water consumption. | <ul style="list-style-type: none"> No significant impact on surface/ground water quantity envisaged. | |
| 3. | Surface Quality | Water | Surface water contamination | <p>Construction Phase</p> <ul style="list-style-type: none"> Surface runoff from site during construction activity. | <ul style="list-style-type: none"> Silt traps and other measures such as additional on site diversion ditches will be constructed to | <ul style="list-style-type: none"> No off-site impact envisaged as no surface water receiving body is present in the core zone. | |

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| | | | | | | |
|----|-------------|---------------------------|----------------|--|--|---|
| | | | | control surface run-off during development | | |
| | | <u>Operation Phase</u> | | <ul style="list-style-type: none"> Domestic water will be treated in STP | No off-site envisaged | Excess of treated water will be discharged to existing sewer in the area. |
| 4. | Air Quality | <u>Construction Phase</u> | Dust Emissions | <ul style="list-style-type: none"> During construction phase the contractors are advised to facilitate masks for the labors Water sprinklers are being used for suppression of dust during construction phase. | Not significant because dust generation will be temporary and will settle fast due to dust suppression techniques. | |
| | | <u>Construction Phase</u> | Emissions of | <ul style="list-style-type: none"> Rapid on-site | Not significant. | Regular monitoring of |

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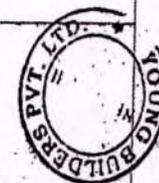
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| PM, SO ₂ , NO ₂ and CO | Operation of construction equipment and vehicles during site development. | Operation of construction and improved maintenance of equipment. | emissions and control measures will be taken to reduce the emission levels. |
|---|---|---|---|
| | <ul style="list-style-type: none"> Use of Personal Protective Equipment (PPE) like earmuffs Running D.G. and earplugs during construction activities. | <ul style="list-style-type: none"> Use of low sulphur diesel if available Stack height of DG set above the tallest building as per CPCB standards Providing Footpath and pedestrian ways within the site for the residents | <p>Not significant.</p> |
| | <p>Operation Phase</p> <ul style="list-style-type: none"> Power generation by DG Set during power failure Emission from vehicular traffic in use | <ul style="list-style-type: none"> No significant increase in ambient air quality level is expected from the project's activities. There are no sensitive | |

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| | | | | | |
|--|----|-------------------|--------------------|--|--|
| | 5. | Noise Environment | Construction phase | <ul style="list-style-type: none"> Green belt will be developed with specific species to help to reduce pollution level. Proper maintenance of equipment Provision of noise shields near the heavy construction operations and acoustic enclosures for DG set. Construction activity is being carried out to day time only | receptors located within the vicinity of site. |
| | | Noise Environment | Operation Phase | <ul style="list-style-type: none"> Green Belt | No significant impact. |

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| | | | | | | |
|----|------------------|--------------------|--|---|--|---|
| 6. | Land Environment | Soil contamination | <ul style="list-style-type: none"> Noise from vehicular movement Noise from DG set operation | <ul style="list-style-type: none"> Development of silence zones to check the traffic movement DG set room will be equipped with acoustic enclosures | No significant impact. Impact will be local, as waste generated will be reused for filling of low lying areas etc. | Since...solid waste is handled by the authorized agency, waste dumping is not |
| | | | <ul style="list-style-type: none"> Construction Phase Disposal of construction debris | Construction debris will be collected and suitably used on site as per the solid waste management plan for construction phase. | | |
| | | | Operation Phase | <ul style="list-style-type: none"> It is proposed that the solid waste generated will be managed as per Solid | | |
| | | | <ul style="list-style-type: none"> Generation of municipal | | | |

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| | | | | | | |
|----|--|---|--|--|---|---|
| 7. | Biological Environment (Flora and Fauna) | Displacement of Flora and Fauna on site | Construction Phase • Site Development | solid waste • Used oil generated from D.G. set | Waste Management Rules, 2016. • Collection, segregation, transportation and disposal will be done as per Solid Waste Management Rules, 2016. by the authorized agency • Used oil generated will be sold to authorized recyclers | going to be allowed. Not significant. After proper handling of MSW as per MSW Notification 1989. Negligible impact. |
| | | | | • Important species of trees, if any, will be identified and marked and will | The site has shrubs as vegetation | |

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| | | | | | |
|----|----------------------------|--|--|--|--|
| | | | during construction | be merged with landscape plan. | |
| | | | <u>Operation Phase</u> • Increase in green covered area | • Suitable green belts will be developed as per landscaping plan in and around the site using local flora | Beneficial impact. |
| 8. | Socio-Economic Environment | Population displacement and loss of income | <u>Construction Phase</u> • Construction activities leading to relocation | • Residential zone as per Master Plan 2021 of Delhi Development Authority • Project is being provided employment opportunities to the local people in terms | No negative impact. Beneficial Impact |

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| | | | |
|---|-------------------------------------|---|--|
| | | <p>• The peak hours is being avoided for transportation of materials.</p> | |
| | <p>No major significant impact.</p> | <p>• Vehicular movement will be regulated inside the project with adequate roads and parking lots in the project.</p> | |
| <p>Vehicular movement during construction</p> | <p>Operation Phase</p> | <p>• Traffic due to residents once the project is operational</p> | |

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10.2 ENVIRONMENT MANAGEMENT PLAN

An Environmental Management Plan (EMP) will be required to mitigate the predicted adverse environmental impacts during construction and operation phase of the project and these are discussed in later subsections.

10.2.1 EMP for Air Environment

Construction Phase

To mitigate the impacts of PM during the construction phase of the project, the following measures are recommended for implementation:

- A dust control plan
- Procedural changes to construction activities

Dust Control Plan

The most cost-effective dust suppressant is water because water is easily available on construction site. Water can be applied using water trucks, handled sprayers and automatic sprinkler systems. Furthermore, incoming loads could be covered to avoid loss of material in transport, especially if material is transported off-site.

Procedural Changes to Construction Activities

Idle time reduction: Construction equipment is commonly left idle while the operators are on break or waiting for the completion of another task. Emission from idle equipment tends to be high, since catalytic converters cool down, thus reducing the efficiency of hydrocarbon and carbon monoxide oxidation. Existing idle control technologies comprises of power saving mode, which automatically off the engine at preset time and reduces emissions, without intervention from the operators.

Improved Maintenance: Significant emission reductions can be achieved through regular equipment maintenance. Contractors will be asked to provide maintenance records for their fleet as part of the contract bid, and at regular intervals throughout the life of the contract. Incentive provisions will be established to encourage contractors to comply with regular maintenance requirements.

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Reduction of On-Site Construction Time: Rapid on-site construction would reduce the duration of traffic interference and therefore, will reduce emissions from traffic delay.

Operation Phase

To mitigate the impacts of pollutants from DG set and vehicular traffic during the operational phase by the Amendment in EC of Group Housing Complex, following measures are recommended for implementation:

- DG set emission control measures
- Vehicular emission controls and alternatives
- Greenbelt development

Diesel Generator Set Emission Control Measures

Adequate stack height will be maintained to disperse the air pollutants generated from the operation of DG set to dilute the pollutants concentration within the immediate vicinity. Hence no additional emission control measures have been suggested.

Vehicle Emission Controls and Alternatives

During construction, vehicles will be properly maintained to reduce emission. As it is an Amendment in EC of Group Housing Complex, the vehicles will be generally having "PUC" certificate.

Footpaths and Pedestrian ways: Adequate footpaths and pedestrian ways would be provided at the site to encourage non-polluting methods of transportation.

Greenbelt Development

Increased vegetation in the form of greenbelt is one of the preferred methods to mitigate air and noise pollution. Plants serve as a sink for pollutants, act as a barrier to break the wind speed as well as allow the dust and other particulates to settle on the leaves. It also helps to reduce the noise level to a large extent. The following table indicates various species of the greenbelt that can be used to act as a barrier.



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Table 9: Trees to be planted in the premises of the Group Housing Complex

| Sr. No. | Name of Species |
|---------|------------------------------|
| 1. | <i>Anthocephalus Cadamba</i> |
| 2. | <i>Azadirachta Indica</i> |
| 3. | <i>Bauhinia Variegata</i> |
| 4. | <i>Erythrina Indica</i> |
| 5. | <i>Ficus Benjamina</i> |
| 6. | <i>Phoenix Dactylifera</i> |
| 7. | <i>Plumeria Alba</i> |
| 8. | <i>Plumeria Rubra</i> |
| 9. | <i>Polyalthia Longifolia</i> |
| 10. | <i>Tabebuia Avellanadae</i> |
| 11. | <i>Tabebuia Argentea</i> |
| 12. | <i>Wodyetia Bifurcata</i> |

10.2.2 EMP FOR NOISE ENVIRONMENT

Construction Phase

To mitigate the impacts of noise from construction equipment during the construction phase on the site, the following measures are recommended for implementation.

Time of Operation: Noisy construction equipment would not be allowed to use at night time.

Job Rotation and Hearing Protection: Workers employed in high noise areas will be employed on shift basis. Hearing protection such as earplugs/muffs will be provided to those working very close to the noise generating machinery.

Operation Phase: To mitigate the impacts of noise from diesel generator set during operational phase, the following measures are recommended:

- Adoption of Noise emission control technologies
- Greenbelt development

Noise Emission Control Technologies

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DG set will be housed in a suitable acoustic enclosure so that noise level at a distance of 1 m does not exceed 25 dB(A) as per CPCB standards or is meeting the local standard (whichever is higher).

It would be ensured that the manufacturer provides acoustic enclosure as an integral part along with the diesel generators set. Further, enclosure of the services area with 4 m high wall will reduce noise levels and ensure that noise is at a permissible limit for resident of the site and surrounding receptors.

10.2.3 EMP FOR WATER ENVIRONMENT

Construction Phase

To prevent degradation and to maintain the quality of the water source, adequate control measures have been proposed. To check the surface run-off as well as uncontrolled flow of water into any water body check dams with silt basins are proposed. The following management measures are suggested to protect the water source being polluted during the construction phase:

- Avoid excavation during monsoon season
- Common toilets will be constructed on site during construction phase and the waste water would be channelized to the septic tanks in order to prevent waste water to enter into the water bodies
- To prevent surface and ground water contamination by oil and grease, leak-proof containers would be used for storage and transportation of oil and grease. The floors of oil and grease handling area would be kept effectively impervious. Any wash off from the oil and grease handling area or workshop shall be drained through imperious drains
- Collection and settling of storm water, prohibition of equipment wash downs and prevention of soil loss and toxic release from the construction site are necessary measure to be taken to minimize water pollution
- All stacking and loading area will be provided with proper garland drains, equipped with baffles, to prevent run off from the site, to enter into any water body.

Operation Phase

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In the operation phase of the project, water conservation and development measures will be taken, including all possible potential for rain water harvesting. Following measures will be adopted:

- Water source development.
- Minimizing water consumption.
- Promoting reuse of water after treatment and development of closed loop systems for different water streams.

Water Source Development

Water source development shall be practiced by installation of scientifically designed Rain Water Harvesting system. Rainwater harvesting promotes self-sufficiency and fosters an appreciation for water as a resource.

Minimizing Water Consumption

Consumption of fresh water will be minimized by combination of water saving devices and other domestic water conservation measures. Further, to ensure ongoing water conservation, an awareness program will be introduced for the residents. The following section discusses the specific measures, which shall be implemented:

Domestic and Commercial Usage

- Use of water efficient plumbing fixtures (ultra low flow toilets, low flow sinks, water efficient dishwashers and washing machines). Water efficient plumbing fixtures uses less water with no marked reduction in quality and service
- Leak detection and repair techniques.
- Sweep with a broom and pan where possible, rather than hose down for external areas.
- Meter water usage. Implies measurement and verification methods.

Monitoring of water uses is a precursor for management.

Horticulture

- Drip irrigation system shall be used for the lawns and other green area. Drip irrigation can save 15-40% of the water, compared with other watering techniques.

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- Plants with similar water requirements shall be grouped on common zones to match precipitation heads and emitters.
- Use of low-angle sprinklers for lawn areas.
- Select controllers with adjustable watering schedules and moisture sensors to account for seasonal variations and calibrate them during commissioning.
- Place 3 to 5 inches of mulch on planting beds to minimize evaporation.

Promoting Reuse of Water after Treatment and Development of Closed Loop Systems

To promote reuse of waste water and development of closed loop system for waste water segregation. Two water conservation schemes are suggested, namely:

- 1) Storm Water Harvest
- 2) Waste water recycling.

Storm water harvest as discussed in earlier, will be utilized for artificial recharge of ground water sources; and waste water will be reused on site after treatment.

Treated waste water will be used for landscaping, flushing, DG set cooling and rest will be discharged to Nearby Construction Activity/Discharged to Public Sewer. Following section discuss the scheme of waste water treatment.

Waste Water Treatment Scheme

Proponent will treat the wastewater of the Group Housing Complex in well-designed sewage treatment plant of capacity 200 KLD based on MBR technology.

Storm Water Management

Most of the storm water produced on site will be harvested for ground water recharge. Thus proper management of this resource is a must to ensure that it is free from contamination.

Contamination of Storm Water is possible from the following sources:

- Diesel and oil spills in the diesel power generator and fuel storage area
- Waste spills in the solid / hazardous waste storage area
- Oil spills and leaks in vehicle parking lots
- Silts from soil erosion in gardens
- Spillage of sludge from sludge drying area of sewage treatment plant



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A detailed storm water management plan will be developed which will consider the possible impacts from above sources. The plan will incorporate best management practices which will include following:

- Regular inspection and cleaning of storm drains
- Clarifiers or oil/separators will be installed in all the parking areas. Oil / grease separators installed around parking areas and garages will be sized according to peak flow guidelines. Both clarifiers and oil/water separators will be periodically pumped in order to keep discharges within limits
- Covered waste storage areas
- Avoid application of pesticides and herbicides before wet season
- Secondary containment and dykes in fuel/oil storage facilities
- Conducting routine inspection to ensure cleanliness
- Provision of slit traps in storm water drains
- Good-housekeeping in the above areas

10.2.4 EMP FOR LAND ENVIRONMENT

Construction Phase

The waste generated from construction activity includes construction debris, biomass from land clearing activities, waste from the temporary make-shift tents for the labors and hazardous waste. Following section discuss the management of each type of waste. Besides waste generation, management of the topsoil is an important area for which management measures are required.

Construction Debris

Construction debris is bulky and heavy and re-utilization and recycling is an important strategy for management of such waste. As concrete and masonry constitute the majority of waste generated, recycling of this waste by conversion to aggregate can offer benefits of reduced landfill space and reduced extraction of raw material for new construction activity. This is particularly applicable to the project site as the construction is to be completed in a phased manner.



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Mixed debris with high gypsum, plaster, shall not be used, as fill, as they are highly susceptible to contamination, and will be send to designated solid waste landfill site.

Metal scrap from structural steel, piping, concrete reinforcement and sheet metal work shall be removed from the site by construction contractors. A significant portion of wood scrap will be reused on site. Recyclable wastes such as plastics, glass fiber insulation, roofing etc shall be sold to recyclers.

Hazardous waste

Construction sites are sources of many toxic substances such as paints, solvents wood preservatives, pesticides, adhesives and sealants. Hazardous waste generated during construction phase shall be stored in sealed containers and disposed off as per The Hazardous Wastes (Management & Handling) Rules, 1989.

Some management practices to be developed are:

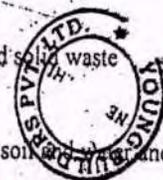
- Herbicides and pesticide will not be over applied (small-scale applications) and not applied prior to rain
- Paintbrushes and equipment for water and oil based paints shall be cleaned within a contained area and will not be allowed to contaminate site soils, water courses or drainage systems
- Provision of adequate hazardous waste storage facilities. Hazardous waste collection containers will be located as per safety norms and designated hazardous waste storage areas will be away from storm drains or watercourses
- Segregation of potentially hazardous waste from non-hazardous construction site debris
- Well labeled all hazardous waste containers with the waste being stored and the date of generation
- Instruct employees and subcontractors in identification of hazardous and solid waste

Even with careful management, some of these substances are released into air, soil and water, and many are hazardous to workers. With these reasons, the best choice is to avoid their use as much

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as possible by using low-toxicity substitutes and low VOC (Volatile Organic Compound) materials.

Waste from Temporary Makes Shift Tents for Labors

Wastes generated from temporary make shift labor tents will mainly comprise of household domestic waste, which will be managed by the contractor of the site. The wastewater generated will be channelized to the septic tank.

Top Soil Management

To minimize disruption of soil and for conservation of top soil, the contractor shall keep the top soil cover separately and stockpile it. After the construction activity is over, top soil will be utilized for landscaping activity. Other measures, which would be followed to prevent soil erosion and contamination include:

- Maximize use of organic fertilizer for landscaping and green belt development
- To prevent soil contamination by oil/grease, leak proof containers would be used for storage and transportation of oil/grease and wash off from the oil/grease handling area shall be drained through impervious drains and treated appropriately before disposal
- Removal of as little vegetation as possible during the development and re-vegetation of bare areas after the project.
- Working in a small area at a point of time (phase wise construction)
- Construction of erosion prevention troughs/berms.

Operational Phase

The philosophy of solid waste management at the proposed complex will be to encouraging the four R's of waste i.e. Reduction, Reuse, Recycling and Recovery (materials & energy). Regular public awareness meetings will be conducted to involve the residents in the proper segregation and storage techniques. The Environmental Management Plan for the solid waste focuses on three major components during the life cycle of the waste management system i.e., collection and

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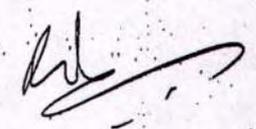
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transportation, treatment or disposal and closure and post-closure care of treatment/disposal facility.

Collection and Transportation

- During the collection stage, the solid waste of the project will be segregated into biodegradable waste and non-biodegradable. Biodegradable waste and non biodegradable waste will be collected in separate bins. Biodegradable waste will be treated in the project premises by organic waste converter. The recyclable wastes will be sent off to recyclabers. Proper guidelines for segregation, collection and storage will be prepared as per Solid Waste Management Rules, 2016.
- To minimize littering and odour, waste will be stored in well-designed containers/ bins that will be located at strategic locations to minimize disturbance in traffic flow
- Care would be taken such that the collection vehicles are well maintained and generate minimum noise and emissions. During transportation of the waste, it will be covered to avoid littering.



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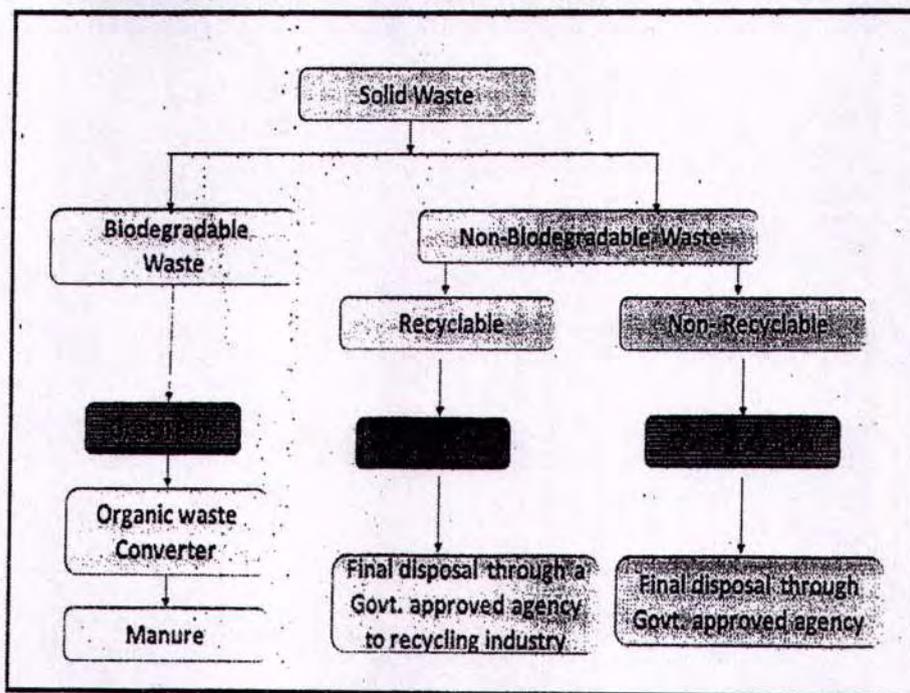


Figure 7: Waste Management Flow Diagram

Disposal

With regards to the disposal/treatment of waste, the management will take the services of the authorized agency for waste management and disposal of the same on the project site during its operational phase.

10.2.5 EMP FOR ECOLOGICAL ENVIRONMENT

Construction activity changes the natural environment. But the Amendment in EC of Group Housing Complex also creates a built environment for its inhabitants. The project requires the implementation of following choices exclusively or in combination.

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Construction Stage

- Restriction of construction activities to defined project areas, which are ecologically sensitive
- Restrictions on location of temporary labor tents and offices for project staff near the project area to avoid human induced secondary additional impacts on the flora and fauna species
- Cutting, uprooting, coppicing of trees or small trees if present in and around the project site for cooking, burning or heating purposes by the labors will be prohibited and suitable alternatives for this purpose will be made
- Along with the construction work, the peripheral green belt would be developed with suggested native plant species, as they will grow to a full-fledged covered at the time of completion.

Operation Stage

Improvement of the current ecology of the project site will entail the following measures:

- Plantation and Landscaping
- Green Belt Development
- Park and Avenue Plantation

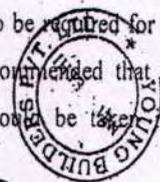
The section below summarizes the techniques to be applied to achieve the above objectives:

Plantation and landscaping

Selection of the plant species would be done on the basis of their adaptability to the existing geographical conditions and the vegetation composition of the forest type of the region earlier found or currently observed.

Green Belt Development Plan

The plantation matrix adopted for the green belt development includes pit of 0.3 m x 0.3 m size with a spacing of 2 m x 2 m. In addition, earth filling and manure may also be required for the proper nutritional balance and nourishment of the sapling. It is also recommended that the plantation has to be taken up randomly and the landscaping aspects could be taken into consideration.



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Plantation comprising of medium height trees (7 m to 10 m) and shrubs (5m height) are proposed for the green belt. In addition creepers will be planted along the boundary wall to enhance its insulation capacity.

Selection of Plant Species for Green Belt Development

The selection of plant species for the development depends on various factors such as climate, elevation and soil. The plants would exhibit the following desirable characteristics in order to be selected for plantation

1. The species should be fast growing and providing optimum penetrability
2. The species should be wind-firm and deep rooted
3. The species should form a dense canopy
4. As far as possible, the species should be indigenous and locally available
5. Species tolerance to air pollutants like SO₂ and NO_x should be preferred
6. The species should be permeable to help create air turbulence and mixing within the belt
7. There should be no large gaps for the air to spill through
8. Trees with high foliage density, leaves with larger leaf area and hairy on both the surfaces
9. Ability to withstand conditions like inundation and drought
10. Soil improving plants (Nitrogen fixing rapidly decomposable leaf litter)
11. Attractive appearance with good flowering and fruit bearing
12. Bird and insect attracting tree species
13. Sustainable green cover with minimal maintenance.

Parks and Avenue Plantation

- Parks and gardens maintained for recreational and ornamental purposes will not only improve the quality of existing ecology at the project site but also will improve the aesthetic value.

- Avenue Plantation

1. Trees with colonial canopy with attractive flowering
2. Trees with branching at 7 feet and above
3. Trees with medium spreading branches to avoid obstruction to the traffic

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4. Fruit trees to be avoided because children may obstruct traffic and general movement of public

10.2.6 EMP for Socio-Economic Environment

The social management plan has been designed to take proactive steps and adopt best practices, which are sensitive to the socio-cultural setting of the region. The Social Management Plan for "Amendment in Group Housing Complex" focuses on the following components:

- **Income Generation Opportunity during Construction and Operation Phase**

The project would provide employment opportunity during construction and operation phase. There would also be a wide economic impact in terms of generating opportunities for secondary occupation within and around the complex. The main principles considered for employment and income generation opportunities are outlined below:

- Employment strategy will provide for preferential employment of local people
- Conditions of employment would address issues like minimum wages and medical care for the workers. Contractors would be required to abide to employment priority towards locals and abide by the labor laws regarding standards on employee terms and conditions.

- **Improved Working Environment for Employees**

The project would provide safe and improved working conditions for the workers employed at the facility during construction and operation phase. With the proposed ambience and facilities provided, the complex will provide a new experience in living and recreations. Following measures would be taken to improve the working environment of the area:

- Less use of chemicals and biological agents with hazard potential
- Developing a proper interface between the work and the human resource through a system of skill improvement
- Provision of facilities for nature care and recreation e.g. indoor games facilities
- Measures to reduce the incidence of work related injuries, fatalities and diseases
- Maintenance and beautifications of the complex and the surrounding roads.

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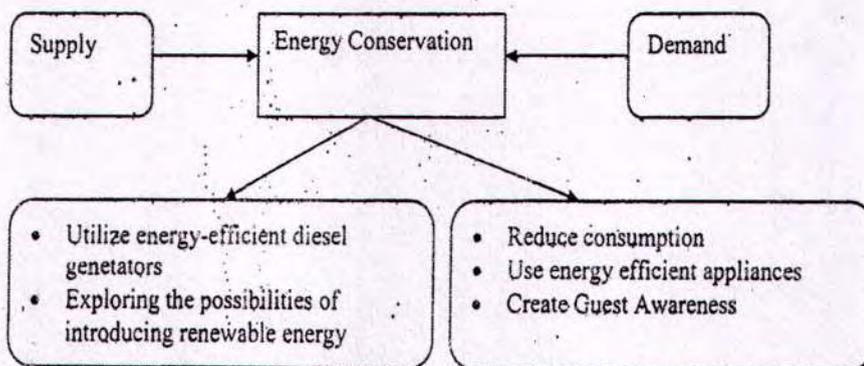
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10.2.7 EMP FOR ENERGY CONSERVATION

Energy conservation program will be implemented through measures taken both on energy demand and supply.



Energy conservation will be one of the main focuses during the complex planning and operation stages. The conservation efforts would consist of the following:

- ❖ **Architectural design**
 - Maximum utilization of solar light will be done.
 - Maximize the use of natural lighting through design.
 - The orientation of the buildings will be done in such a way that maximum daylight is available.
 - The green areas will be spaced, so that a significant reduction in the temperature can take place.
- ❖ **Energy Saving Practices**
 - Energy efficient lamps will be provided within the complex.
 - Constant monitoring of energy consumption and defining targets for energy conservation.
 - Adjusting the settings and illumination levels to ensure minimum energy used for desired comfort levels.
- ❖ **Behavioral Change on Consumption**
 - Promoting resident awareness on energy conservation

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- Training staff on methods of energy conservation and to be vigilant to such opportunities.

10.3 ENVIRONMENTAL MANAGEMENT SYSTEM AND MONITORING PLAN

For the effective and consistent functioning of the complex, an Environmental Management system (EMS) would be established at the site. The EMS would include the following:

- An Environmental management cell.
- Environmental Monitoring.
- Personnel Training.
- Regular Environmental audits and Correction measures.
- Documentation – standards operation procedures Environmental Management Plan and other records.

10.3.1 ENVIRONMENTAL MANAGEMENT CELL

Apart from having an Environmental Management Plan, it is also proposed to have a permanent organizational set up charged with the task of ensuring its effective implementation of mitigation measures and to conduct environmental monitoring. The major duties and responsibilities of Environmental Management Cell shall be as given below:

- To implement the environmental management plan.
- To assure regulatory compliance with all relevant rules and regulations.
- To ensure regular operation and maintenance of pollution control devices.
- To minimize environmental impact of operations as by strict adherence to the EMP.
- To initiate environmental monitoring as per approved schedule.
- Review and interpretation of monitored results and corrective measures in case monitored results are above the specified limit.
- Maintain documentation of good environmental practices and applicable environmental laws for a ready reference.
- Maintain environmental related records.

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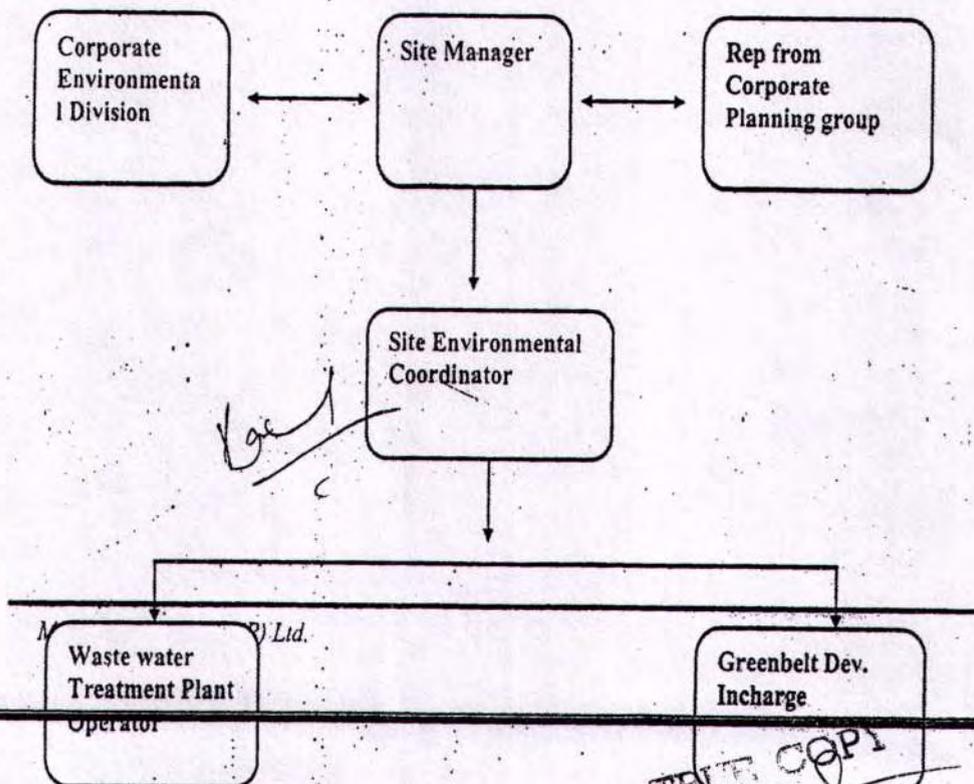
**Amendment in EC of Group Housing Complex
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- Coordination with regulatory agencies, external consultants, monitoring laboratories.
- Maintenance of log of public complaints and the action taken.

Hierarchical Structure of Environmental Management Cell

Normal activities of the EMP cell would be supervised by a dedicated person who will report to the site manager/coordinator of the Group Housing Complex. The hierarchical structure of suggested Environmental Management Cell is given in following Figure 8.



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Figure 8: Environment Management Cell Structure

10.3.2 ENVIRONMENTAL MONITORING

The purpose of environmental monitoring is to evaluate the effectiveness of implementation of Environmental Management Plan (EMP) by periodic monitoring. The important environmental parameters within the impact area are selected so that any adverse affects are detected and time action can be taken. The project proponent will monitor ambient air Quality, Ground Water Quality and Quantity, and Soil Quality in accordance with an approved monitoring schedule.

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Table 10: Suggested Monitoring Program for Group Housing Complex

| S. No. | Type | Locations | Parameters | Period and Frequency |
|--------|-----------------------------------|-----------------------------|--|---|
| 1. | Ambient Air Quality | Project Site | Criteria Pollutants: SO ₂ , NO ₂ , PM ₁₀ , PM _{2.5} , CO | Twice in a Year as per EIA Notification 2006. |
| 2. | Groundwater (Portability testing) | Project site | Drinking water parameters as per IS 10500. | Twice in a Year as per EIA Notification 2006. |
| 3. | Ambient Noise | Project site | dB (A) levels | Twice in a Year as per EIA Notification 2006. |
| 4. | Potable water quality | Delhi Development Authority | As. per IS- 10500 potable water standards | Twice in a Year as per EIA Notification 2006. |
| 5. | Soil quality | Project site | Organic matter, C.H., N, Alkalinity, Acidity, heavy metals and trace metal, Alkalinity, Acidity. | Twice in a Year as per EIA Notification 2006. |
| 6. | Waste Characterization | Residential | Physical and Chemical composition | Daily. |
| 7. | Treated water | Outlet of STP | BOD, MPN, coliform count, etc. | Daily. |

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10.3.3 Awareness and Training

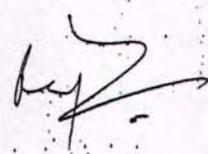
Training and human resource development is an important link to achieve sustainable operation of the facility and environment management. For successful functioning of the project, relevant EMP would be communicated to:

Residents and Contractors

Residents and staffs must be made aware of the importance of waste segregation and disposal, water and energy conservation. The awareness can be provided by periodic Integrated Society meetings. They would be informed of their duties.

10.3.4 Environmental Audits and Corrective Action Plans

To assess whether the implemented EMP is adequate, periodic environmental audits will be conducted by the project proponent's Environmental division. These audits will be followed by Correction Action Plan (CAP) to correct various issues identified during the audits.



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CONCEPTUAL PLAN

w.r.t.

AMENDMENT IN EC OF GROUP HOUSING COMPLEX

At

1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil
Lines (Adjoining Vishwa Vidyalaya Metro
Station), Delhi

For

M/s. Young Builders (P) Ltd.

Schedule: 8 (a)



Prepared By

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(Adjoining Vishwa Vidyalaya Metro Station), Delhi*

Conceptual Plan

INTRODUCTION

The proposed project is Amendment in EC of Group Housing Complex which will be constructed by M/s. Young Builders (P) Ltd. The company has proposed Amendment in EC of Group Housing Complex located at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines (Adjoining Vishwa Vidyalaya Metro Station), Delhi for which Environmental Clearance has been obtained for a Built Up area of 70,265.95 m² vide EC letter no DPCC/SEAC/50/SEIAA/1/2012 dated 13th August, 2012. However, we are going for Amendment in EC now, with a proposed Built- Up area (including EC Accorded as well as Amended Area) of 1,17,733.81 m².

SITE LOCATION AND SURROUNDINGS

The Group Housing Complex located at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines (Adjoining Vishwa Vidyalaya Metro Station), Delhi. The Co-ordinates of the project site are 28°41'40.00"N & 77°12'50.50"E. Google Earth image and Toposheet showing site & surroundings within 500 m and 10 & 15 km is enclosed as Annexure I (a) & I (b).

CONNECTIVITY

The project site is adjacent and well connected through NH-1 (Grand Trunk Road) approx. 35m away from project site towards North direction. The nearest railway station is Old Delhi Railway Station, which is approx. 4.0 km away from the project site towards (SSE). The nearest Airport is Indira Gandhi International Airport, at 19 km (SW) from the project site.

PROJECT COST

The total project cost of the project will be 257.28 Crores.

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(Adjoining Vishwa Vidyalaya Metro Station), Delhi

Conceptual Plan

AREA STATEMENT

The total (EC Accorded + Amended) area of project is estimated 20,000m² (or 4.94 acres). The detailed Area Statement is provided below in Table 1.

Table 1: Area Statement (EC Accorded + Amended Area)

| S. No. | PARTICULARS | EC Accorded Area (Sqm.) | Amended Area (Sqm.) | Total Area (EC Accorded + Amended Area) (Sqm.) | Percentage (%) |
|--------|--|--------------------------|---------------------|--|----------------|
| 1. | Plot Area | | 20,000 | | 100 |
| 2. | Permissible Ground Coverage | 6,666 | 0 | 6,666 | |
| 3. | Proposed Ground Coverage | 2,130.64 | -249.04 | 1,881.6 | |
| 4. | Permissible FAR | 46,600 | -6,100 | 40,500 | |
| 5. | Proposed FAR | 46,156.72 (inc. EWS FAR) | -5,658.13 | 40,498.59 | |
| 6. | Permissible EWS FAR (minimum 15% of FAR, Free from FAR) | -- | 6,000 | 6,000 | |
| 7. | Proposed FAR for EWS | -- | 8,306.52 | 8,306.52 | |
| 8. | Non FAR Area <ul style="list-style-type: none"> • Area free of FAR in Towers, Club & EWS inc. Balconies, Mumty, Staircases, Fire Tower, Fire Check Floor, Ground Floor Lobbies etc. | -- | 22,874.44 | 22,874.44 | |

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(Adjoining Vishwa Vidyalaya Metro Station), Delhi*

Conceptual Plan

| | | | | | |
|-----|---|-----------|-----------|-------------|--|
| | • GF Podium area | -- | 6,493.24 | 6,493.24 | |
| | • FF Podium area | -- | 7,210.07 | 7,210.07 | |
| | • SF Stilt area | 586.41 | 24.29 | 610.7 | |
| 9. | Lower & Upper Basement Area (Non FAR) | 23,522.92 | 8,217.34 | 31,740.26 | |
| 10. | Total Built Up Area | 70,265.95 | 47,467.86 | 1,17,733.81 | |
| 11. | Landscape area | 8,373.75 | -4,961.78 | 3,411.97 | |
| 12. | Building Heights (in m) (Building Top level) | 117 | 22.6 | 139.6 | |

*FAR = Floor Area Ratio

Table 2: Built-up Area Breakup (EC Accorded + Amended Area)

| Sl. No. | PARTICULARS | EC Accorded Area (Sq. m.) | Amended Area (Sq. m.) | Total Area (EC Accorded + Amended Area) (Sq. m.) |
|---------|---------------------------------------|--------------------------------|-----------------------|--|
| 1. | Proposed FAR | 46,156.72 (inc. FAR of EWS) | -5658.13 | 40,498.59 |
| 2. | Proposed FAR for EWS | -- | 8,306.52 | 8,306.52 |
| 3. | Non FAR | 586.41 | 36,602.04 | 37,188.45 |
| 4. | Lower & Upper Basement Area (Non FAR) | 23,522.92 | 8,217.34 | 31,740.26 |
| 5. | Built Up Area | 70,265.95 | 47,467.86 | 1,17,733.81 |

POPULATION DENSITY

The total population for the total project (EC Accorded + Amended) is 1,785 persons.

The detailed population breakup is given below in the following Table 3 (a, b).

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Table 3(a): Dwelling Units (EC Accorded + Amended)

| S. No. | Particular | EC Accorded | Amended | Total |
|--------|---------------------------------|-------------|---------|-------|
| A. | Total Dwelling Unit inc. EWS | 324 | 86 | 410 |

Table 3(b): Population Break up (EC Accorded + Amended)

| S. No. | Unit Type | Dwelling Units /Area (in m ²) | PPU/ m ² per person | Total Population |
|--------------------------------|-------------|---|-----------------------------------|---------------------|
| A. | Residential | 258 | 4.5 | 1,161 |
| B. | EWS | 152 | 2.5 | 380 |
| C. | Staff | | @ 5% residential population | 58 |
| D. | Visitors | | @ 10 % residential population | 116 |
| E. | Shops staff | 15 | @ 2 Persons/ Shop | 30 |
| F. | Community | 1 | @ 40 Persons/ Building | 40 |
| Total Population (A+B+C+D+E+F) | | | | 1,785 |

WATER REQUIREMENT

The total water requirement is approx. 224 KLD, out of which total domestic water requirement is 214 KLD. The fresh water requirement is approx. 157 KLD (which is 70% of the domestic water demand). The water will be supplied by Delhi Jal Board. The daily water requirement calculation is given below in Table 5:

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Table 4: Comparative Details of Water & Wastewater generated

| SI. No. | Particulars | EC Accorded (KLD) | Amended (KLD) | Total (EC Accorded + Amended) (KLD) |
|---------|-------------------------|-------------------|---------------|-------------------------------------|
| 1. | Total Water Requirement | 203 | 21 | 224 |
| 2. | Total Fresh Water | 106 | 51 | 157 |
| 3. | Wastewater | 129 | 63 | 192 |
| 4. | STP capacity | 55 | 145 | 200 |

Table 5: Calculations for Daily Water Demand (EC Accorded + Amended)

| S. No. | Description | Area (in m ²) | Total Occupancy | Rate of water demand (lpcd) | Total Water Requirement(KLD) |
|---|--|---------------------------|-----------------|-----------------------------|------------------------------|
| A. | Domestic Water | | | | |
| | I) Residential | | 1,161 | 135 | 157 |
| | II) EWS | | 380 | 135 | 51 |
| | III) Staff @ 5% residential population | | 58 | 45 | 2.6 |
| | Visitors @ 10% residential population | | 116 | 15 | 1.7 |
| | IV) Shops staff @ 2 Persons/Shop | 15 Shops | 30 | 45 | 1.35 |
| | V) Community @ 40 Persons/Building | 1 | 40 | 15 | 0.60 |
| Total Domestic Water (A=I+II+III+IV+V) | | | | | 214.25 KLD or say 214 |
| B. | Horticulture and Landscape Development | 3,411.97 m ² | | 3 lt./sqm/day | 10 |
| Grand Total (A+B) = 224 KLD | | | | | |

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Table 6: Wastewater Calculations (EC Accorded + Amended)

| | |
|--|--------------------|
| Domestic Water Requirement | 224 KLD |
| • Fresh water (@ 70% of domestic) | 157 KLD |
| • Flushing (@ 30% of domestic) | 67 KLD |
| Waste Water Generated (@ 80% fresh + 100% flushing) | 125 + 67 = 192 KLD |

The water balance diagram during rainy season & non-rainy season is shown below in Figure 1 & 2 respectively:

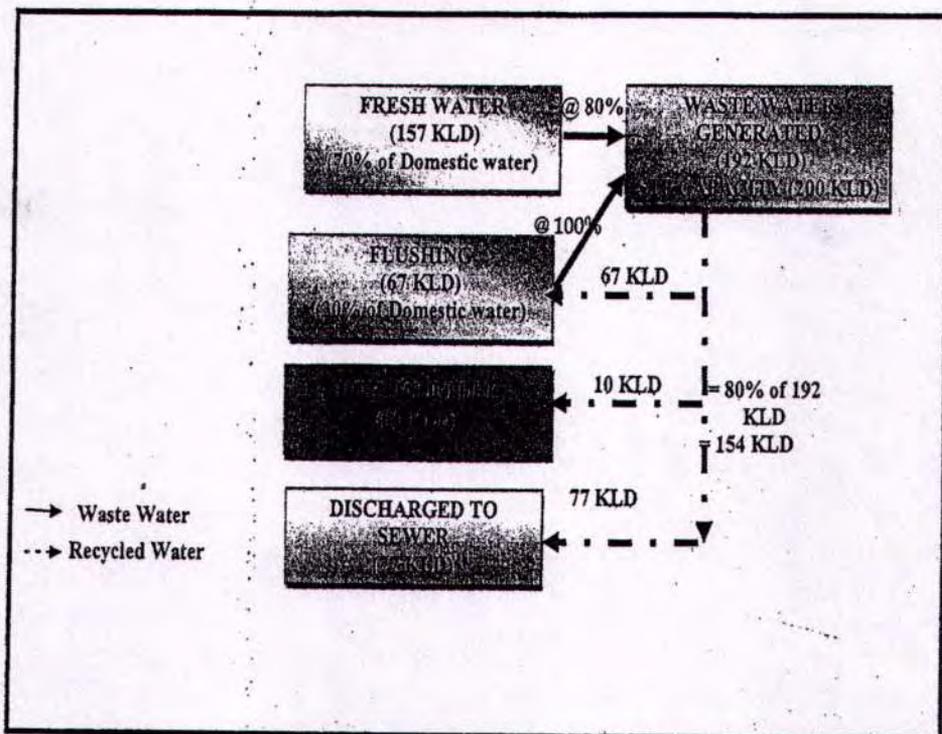


Figure 1: Water Balance Diagram during Non-Rainy Season

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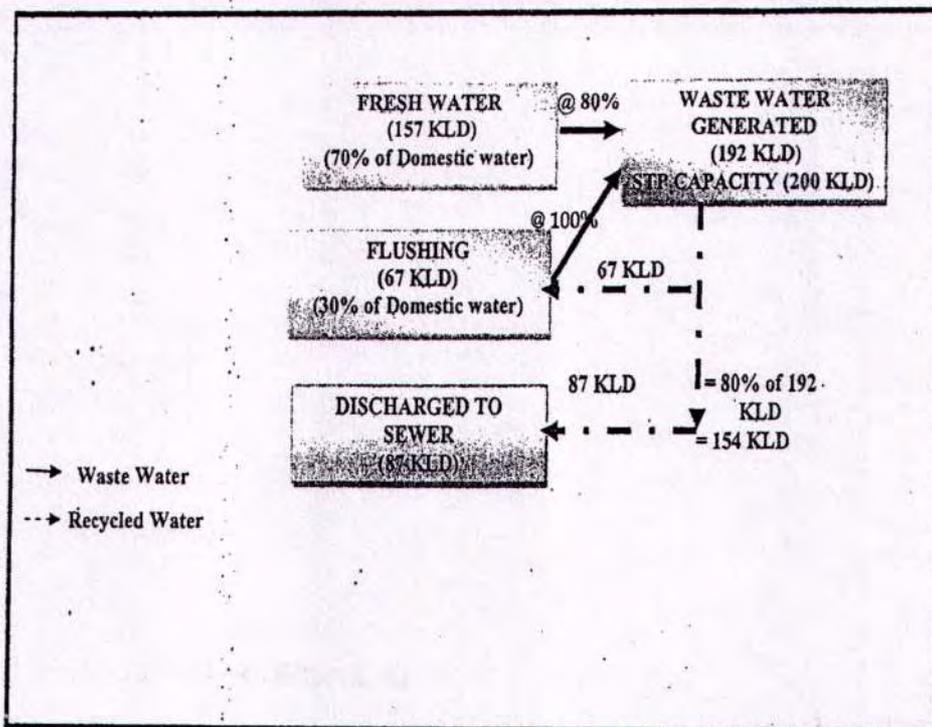


Figure 2: Water Balance Diagram during Rainy Season

Wastewater Generation & Treatment

It is expected that the project will generate approx. 192 KLD of wastewater. The wastewater will be treated in the STP of 200 KLD capacity provided within the complex generating 154 KLD of recoverable water from STP which will be recycled within the project for Flushing, Horticulture and rest will be discharged to existing sewer in the area.

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SEWAGE TREATMENT TECHNOLOGY

MBR TECHNOLOGY

The project will generate approx. 192 KLD of waste water. The waste water will be treated in the STP of capacity 200 KLD provided within the complex generating 154 KLD of treated effluent which will be recycled within the project for the purpose of flushing, horticulture, etc. An external sewage network shall collect the sewage from all units, and flows by gravity to the sewage treatment plant. Following are the benefits of providing the Sewage Treatment Plant in the present circumstances:

- The process has long retention time and can absorb shock load situation.
- Reduced net daily water requirements, source for Flushing and Horticultural purposes by utilization of the treated water.
- Reduced dependence on the public utilities for water supply and sewerage systems.
- The process produces a well-oxidized sludge in small quantities only, which can be removed and used as manure.

a. Wastewater Details

| | | | |
|-----|-------------------------|---|--------------|
| (a) | Daily load | : | 192 KLD |
| (b) | Duration of flow to STP | : | 24 hours |
| (c) | Temperature | : | Maximum 32°C |
| (d) | pH | : | 7.5-8.5 |
| (e) | Color | : | Mild |
| (f) | T.S.S. (mg/l) | : | 200-300 mg/l |
| (g) | BOD ₅ (mg/l) | : | <300 mg/l |
| (h) | COD (mg/l) | : | 600-800 mg/l |

b. Treated effluent

| | | | |
|-----|------------------------|---|------------|
| (a) | pH | : | 6.0 to 8.0 |
| (b) | B.O.D. | : | <10 mg/l |
| (c) | C.O.D. | : | <30 mg/l |
| (d) | Total Suspended Solids | : | <10mg/l |

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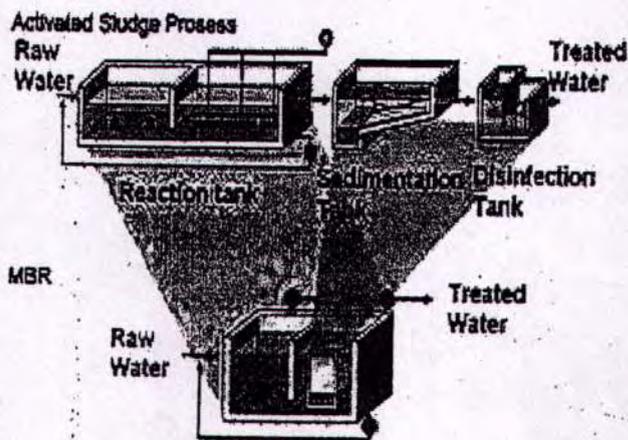
c. Treatment Technology

MBR TECHNOLOGY

The sewage will be first passed through a Bar Screen Chamber where any extraneous matter would get trapped.

The sewage would then be collected in a Receiving Sump where the variations in flow and characteristics are dampened, which otherwise can lead to operational problems and moreover it allows a constant flow rate downstream. Here the sewage is kept in mixed condition by means of coarse air bubble diffusion.

The equalized sewage is then pumped to the Membrane Bio Reactors (MBR) where BOD/COD reduction is achieved by virtue of membrane filtration. Membranes perform the separation of the final effluent from the biomass through filtration. Filtration takes place by the application of a pressure gradient.



The tertiary treated water is passed through the Softener and the water can now safely be used for cooling tower make-up & Irrigation System applications etc.

The biological sludge generated from the MBR, can be either drained to the filter press.

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The percolated filtrate from the sludge drying beds will be sent back to the Equalization Tank and the dried cakes can be disposed-of suitably.

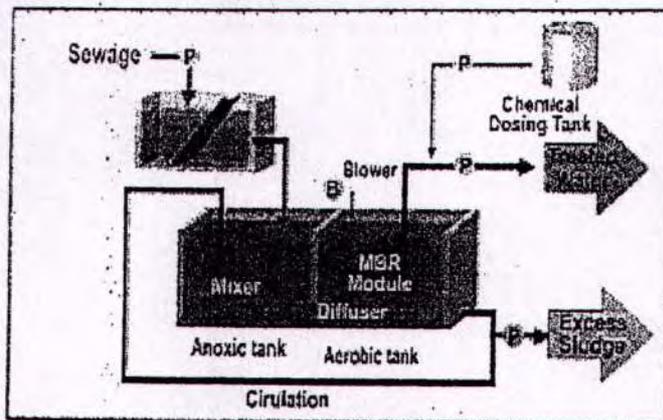


Figure 4: Process Block Diagram

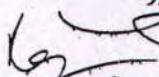
The percolated filtrate from the sludge drying beds will be sent back to the Equalization Tank and the dried cakes will be disposed off suitably.

RAIN WATER HARVESTING

The storm water collection system for the premises is self-sufficient to avoid any collection/stagnation and flooding of water. The amount of storm water run-off depends upon many factors such as intensity and duration of precipitation, characteristics of the tributary area and the time required for such flow to reach the drains. The drains are located near the carriage way along either side of the roads. Taking the advantage of road camber, the rainfall run-off from roads flow towards the drain.

- 1) Since the existing topography is congenial to surface disposal, a network of storm water pipe drains has been constructed adjacent to roads. All building rooftop run-off has been brought down through rain-water pipes.
- 2) Proposed storm water system consists of pipe drain, catch basins and seepage pits at regular intervals for rain water harvesting and ground water recharging.

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3) The peak hourly rainfall of 45 mm/hr has been considered for designing the storm water drainage system.

Design specifications of the rain water harvesting plan are as follows:

- Catchments/roofs are accessible for regular cleaning.
- The roof are having smooth, hard and dense surface which is less likely to be damaged allowing release of material into the water. Roof painting has been avoided since most paints contain toxic substances and may peel off.
- All gutter ends are fitted with a wire mesh screen and a first flush device would be installed. Most of the debris carried by the water from the rooftop like leaves, plastic bags and paper pieces will get arrested by the mesh at the terrace outlet and to prevent contamination by ensuring that the runoff from the first 10-20 minutes of rainfall is flushed off.
- No sewage or wastewater is being admitted into the system.
- No wastewater from areas likely to have oil, grease, or other pollutants has been connected to the system.

Table 7: Comparative Details of Rain Water Harvesting Structures

| | EC Accorded | EC Accorded + Amended |
|---|-------------|-----------------------|
| No. of Rain Water Harvesting structures | 3 Pits | 3 + 3 = 6 Pits |

Calculations for storm water load (EC Accorded + Amended)

Roof-top area = Ground Coverage = 1881.6 m²

Green Area = 3411.97 m²

Paved Area = Total Plot Area - (Roof-top Area + Green Area)
= 20,000 - (1881.6 + 3411.97)
= 14,706.43 m²

Runoff Load

Roof-top Area = 1881.6 × 0.045 × 0.8
= 67.74 m³/hr



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Green Area = $3411.97 \times 0.045 \times 0.1$
= $15.35 \text{m}^3/\text{hr}$

Paved Area = $14,706.43 \times 0.045 \times 0.75$
= $496.34 \text{m}^3/\text{hr}$

Total Runoff Load = $67.74 + 15.35 + 496.34 \text{m}^3/\text{hr}$
= $579.43 \text{m}^3/\text{hr}$

Taking 15 minutes Retention Time, Total volume of storm water = $579.43/4$
= 144.85m^3

Considering the radius and depth of a Recharge pit 1.5 m and 3.5 m respectively, Volume of a single Recharge pit = $\pi r^2 h = 3.14 \times 1.5 \times 1.5 \times 3.5 = 24.72 \text{m}^3$

Hence No. of pits required = $144.85/24.72 = 5.86$ pits say 6 pits.

Total of 6 Rain Water Harvesting pits in are being proposed for artificial rain water recharge from roof runoff within the project premises.

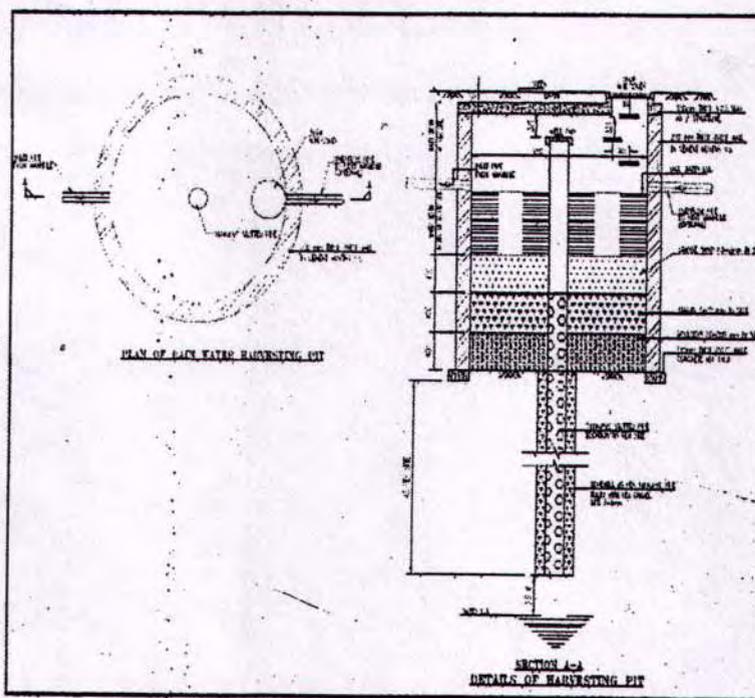


Figure 3: Typical Rain Water Harvesting Pit Design

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VEHICLE PARKING FACILITIES

Adequate provision will be made for car/vehicle parking at the project site. There are also adequate parking provisions for visitors so as not to disturb the traffic and allow smooth movement at the site.

Table 8: Comparative details of parking facilities

| | EC Accorded | Amended | Total (EC Accorded + Amended) |
|------------------|-------------|---------|-------------------------------|
| Parking Proposed | 922 ECS | -68 ECS | 854 ECS |

Parking Required (EC Accorded + Amended Area):

As per MoEF Norms:

For residential facilities = 1 ECS/100 m² FAR
= 48,805.59/100 = 488 ECS
Total parking required as per MoEF Norms = 488 ECS

As per MPD 2021:

For residential facilities = 2 ECS/100 m² FAR
= 40,498.59/50 = 810 ECS
For EWS = 0.5 ECS/50 m² FAR
= 8,306.52/200 = 42 ECS
Total parking required as per UBBL Norms = 852 ECS

Parking Proposed:

Area proposed for Upper Basement parking = 13,620.13 m²
Minimum Area required for 1 ECS of Basement parking = 32 m²
Total parking proposed in upper basement = 187 ECS

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| | |
|--|----------------------------|
| Area proposed for Lower Basement parking | = 13,620.13 m ² |
| Minimum Area required for 1 ECS of Basement parking | = 32 m ² |
| Total parking proposed in lower basement | = 186 ECS |
| Area proposed for Podium Level 1 parking inc. staircase, ramps & lobbies, stack parking | = 6,493.24 m ² |
| Minimum Area required for 1 ECS of Podium Level 1 parking | = 28 m ² |
| Total parking proposed in Podium Level 1 | = 235 ECS |
| Area proposed for Podium Level 2 parking inc. staircase, ramps & lobbies, stack parking | = 7,210.07 m ² |
| Minimum Area required for 1 ECS of Podium Level 2 parking | = 28 m ² |
| Total parking proposed in Podium Level 2 | = 246 ECS |
| Total Parking proposed | = 187+186+235+246 |
| | = 854 ECS |

Out of which, 5% of the parking has been reserved for physically handicapped.

POWER REQUIREMENT

The power supply will be supplied by North Delhi Power Limited (NDPL). The connected load by the Amendment in EC of Group Housing Complex will be approx. 2808 KW.

Details of D.G Sets

There is provision of 3 no. of DG sets of 4500 kVA (3 X 1500 kVA) capacity for power back up for Amendment in EC of Group Housing Complex. 1 DG Set will be on standby mode. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion.

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SOLID WASTE GENERATION

Solid waste would be generated both during the construction as well as during the operation phase. The solid waste expected to be generated during the construction phase will comprise of excavated materials, used bags, bricks, concrete, MS rods, tiles, wood etc. The following steps are proposed to be followed for the management solid waste:

- Construction yards are proposed for storage of construction materials.
- The excavated material such as topsoil and stones will be stacked for reuse during later stages of construction
- Excavated top soil will be stored in temporary constructed soil bank and will be reused for landscaping of the group housing complex.
- Remaining soil shall be utilized for refilling / road work / rising of site level at locations/ selling to outside agency for construction of roads etc.

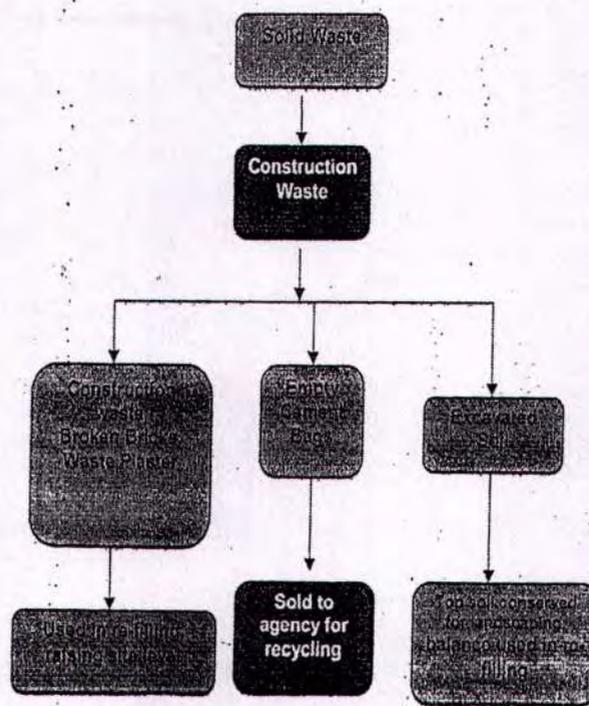


Figure 4: Solid Waste Management Scheme (Construction Phase)

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During the operation phase, waste will comprise domestic as well as agricultural waste. The solid waste generated from the project shall be mainly domestic waste and estimated quantity of the waste shall be approx. 840 kg per day (@ 0.50 kg per capita per day for residents, @ 0.15 kg per capita per day for the visitor, 0.25 kg per capita per day for the staff members and landscape wastes @ 0.2 kg/acre/day and STP sludge). Following arrangements will be made at the site in accordance to Municipal Solid Wastes (Management and Handling) Rules, 2016 and its amendments.

Table 9: Comparative details of Solid waste generation

| | EC Accorded | Amended | Total (EC Accorded + Amended) |
|-----------------------|-------------|------------|-------------------------------|
| Solid waste generated | 504 kg/day | 336 kg/day | 840 kg/day |

Table 10: Calculation of Solid Waste Generation (EC Accorded + Amended)

| S. No. | Category | Waste Generated (kg per capita per day) | Waste generated (kg/day) |
|------------------------------------|---------------------------------|---|------------------------------|
| 1. | Residents | 1161 @ 0.50 kg/day | 580.5 |
| | Staff (Resident) | 58 @ 0.25 kg/day | 14.5 |
| | Visitors (Resident) | 116 @ 0.15 kg/day | 17.4 |
| 2. | EWS | 380 @ 0.50 kg/day | 190 |
| 3. | Shops | 30 @ 0.25 kg/day | 7.5 |
| 4. | Community Building | 40 @ 0.25 kg/day | 10 |
| 5. | Landscape waste (0.84 acres) | @ 0.2 kg/acre/day | 0.17 |
| 6. | STP Sludge | 0.35 x (BOD Difference)/1000 x Waste Water | 19.5 |
| TOTAL SOLID WASTE GENERATED | | | 839.57 say 840 kg/day |

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Collection and Segregation of waste

1. A door to door collection system will be provided for collection of domestic waste in colored bins from household units.
2. The local vendors will be hired to provide separate colored bins for dry recyclables and Bio-Degradable waste.
3. Litter bin will also be provided in open areas like parks etc.

❖ Treatment of waste

• Bio-Degradable wastes

1. Bio-degradable waste will be subjected to organic waste converter and the compost will be used as manure.
2. STP sludge is proposed to be used for horticultural purposes as manure.
3. Horticultural Waste is proposed to be composted and will be used for gardening purposes.

• Recyclable wastes

- i. Grass Recycling – The cropped grass will be spread on the green area. It will act as manure after decomposition.
- ii. Recyclable wastes like paper, plastic, metals etc. will be sold off to recyclables.

❖ Disposal

Recyclable and non-recyclable wastes will be disposed through Govt. approved agency. Hence, the Municipal Solid Waste Management will be conducted as per the guidelines of Municipal Solid Wastes (Management and Handling) Rules, 2016. A Solid waste management Scheme is depicted in the following figure for the residential project.

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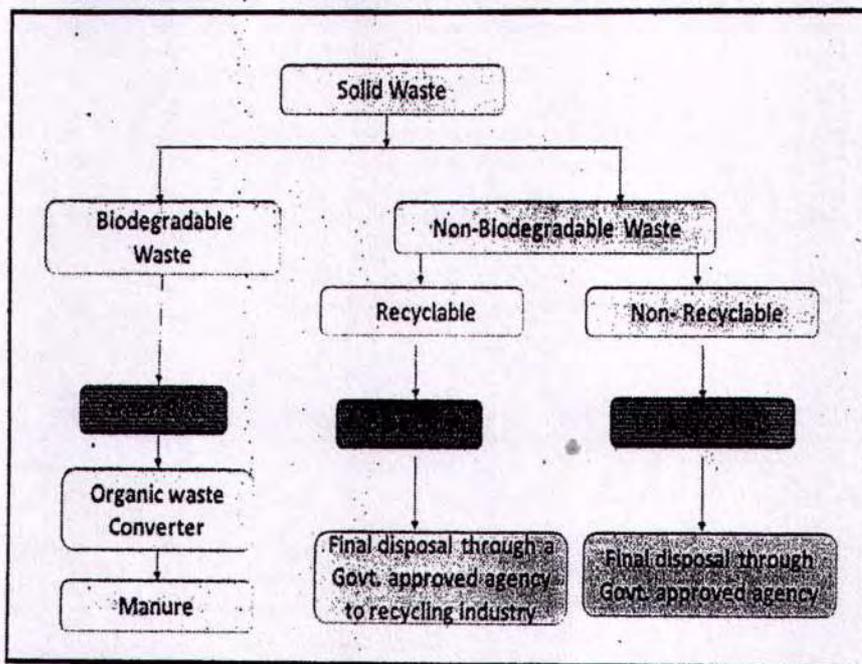


Figure 5: Solid Waste Management Scheme (Operation Phase)

Organic Waste Converter

A waste converter is a machine used for the treatment and recycling of solid and liquid refuse material. A converter is a self-contained system capable of performing the following functions: pasteurization of organic waste; sterilization of pathogenic or biohazard waste; grinding and pulverization of refuse into unrecognizable output; trash compaction; dehydration.

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Figure 6: Organic Waste Converter

Benefits of organic waste converter:

1. Large quantity of solid waste is converted to fertilizer in a very short period
2. Fertilizers can be sold as compost to farmers, or used for gardening
3. Machine requires less space and the efficiency is high.
4. Manpower and maintenance is very less.
5. This is one of the latest techniques of managing solid waste.

GREEN AREA

Total green area measures 3,411.97 m² i.e. 17.06% of the plot area which will be area under tree plantation within the residential plots and along the roads. Evergreen tall and ornamental trees and ornamental shrubs have been proposed to be planted inside the premises. Parks will also be developed by the project proponent.

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Table 11: Green Area

| S. No. | Particulars | Area (in m ²) |
|--------|---|---------------------------|
| 2. | Required Green Area = 50% of the Plot Area- Permissible Ground Coverage | 3340.0 |
| 3. | Proposed Green Area (@ 17.06% of Plot Area) | 3,411.97 |
| 4. | No. of Trees Required (1 Tree / 80 m ² of the open area) | 227 Nos. |
| 5. | No. of Trees Proposed | 268 Nos. |

Table 12: Plantation List

| Sr. No. | Name of Species |
|---------|------------------------------|
| 1. | <i>Anthocephalus Cadamba</i> |
| 2. | <i>Azadirachta Indica</i> |
| 3. | <i>Bauhinia Variegata</i> |
| 4. | <i>Erythrina Indica</i> |
| 5. | <i>Ficus Benamina</i> |
| 6. | <i>Phoenix Dactylifera</i> |
| 7. | <i>Plumeria Alba</i> |
| 8. | <i>Plumeria Rubra</i> |
| 9. | <i>Polyalthia Longifolia</i> |
| 10. | <i>Tabebuia Avellanadae</i> |
| 11. | <i>Tabebuia Argentea</i> |
| 12. | <i>Wodyetia Bifurcata</i> |

DETAILS OF CONSTRUCTION MATERIALS

List of few building materials being used at site:

1. Coarse sand
2. Fine Sand
3. Stone Aggregate
4. Stone cladding
5. Cement
6. Reinforcement steel
7. Pipe scaffolding
8. Bricks
9. Crazy (white marble) in grey cement
10. MDS, MCBs
11. RCC/PVC overhead water tanks

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12. 2 1/2" thick paved tiles
13. PPR (ISI marked)
14. PVC waste water lines
15. S.W. sewer line up to main sewer
16. PVC rain water down take
17. Stainless steel sink in kitchen
18. Joinery hardware- ISI marked
19. AAC/Concrete/Hollow Blocks

MATERIALS USED FOR CONSTRUCTION & THEIR U VALUES

| Type of construction | U values (in W/m ² deg C) |
|--|--------------------------------------|
| Walls: | |
| Brick: | |
| Plastered both sides -115mm | 3.24 |
| Solid, Unplastered - 230 mm | 2.67 |
| Plastered both sides -230mm | 2.44 |
| AAC/Concrete, ordinary, Dense: | |
| -152 mm | 3.58 |
| -203 mm | 3.18 |
| AAC/ Concrete block cavity, 250mm (100/150/200/ As per requirement) outside rendered, inside plastered: | |
| Aerated concrete blocks | 1.19 |
| Hollow Concrete blocks, single skin, outside rendered, inside plastered: | |
| Aerated concrete blocks | 1.70 |
| Roofs Pitched: | |
| Tiles or slates on boarding and felt with plaster ceiling | 1.70 |
| Roofs Flat: | |
| Reinforced concrete slab 100mm screed 63-12m, 3 layers bituminous felt | 3.35 |
| Floors: | |
| Concrete on ground or hardcore fill | 1.13 |
| + Grano, Terrazzo or tile finish | 1.13 |
| + wood block finish | 0.85 |
| Windows: | |
| Exposure South, Sheltered: | |
| Single Glazing | 3.97 |
| Double Glazing 6mm space | 2.67 |

LIST OF MACHINERY USED DURING CONSTRUCTION

- | | |
|----------------------------------|-------------------------------|
| (i) Dumper | (viii) Air Compressor |
| (ii) Concrete mixer with hopper | (ix) Tower Cranes |
| (iii) Excavator | (x) Hoist |
| (iv) RMC/Concrete Batching Plant | (xi) Labor Lifts |
| (v) Cranes | (xii) Pile Boring Machines |
| (vi) Road roller | (xiii) Concrete pressure pump |
| (vii) Bulldozer | (xiv) Mobile transit mixer |

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(Adjoining Vishwa Vidyalaya Metro Station), Delhi*

EMP

ENVIRONMENT MANAGEMENT PLAN

The Environment Management Plan (EMP) would consist of all mitigation measures for each component of the environment due to the activities increased during the construction, operation and the entire life cycle to minimize adverse environmental impacts resulting from the activities of the project. It would also delineate the environmental monitoring plan for compliance of various environmental regulations. It will state the steps to be taken in case of emergency such as accidents at the sites including fire. The detailed EMP for the project is given below.

Environmental Management Plan

The Environment Management Plan (EMP) is a site specific plan developed to ensure that the project is implemented in an environmental sustainable manner where all contractors and subcontractors, including consultants, understand the potential environmental risks arising from the project and take appropriate actions to properly manage that risk. EMP also ensures that the project implementation is carried out in accordance with the design by taking appropriate mitigation actions to reduce adverse environmental impacts during its life cycle. The plan outlines existing and potential problems that may adversely impact the environment and recommends corrective measures wherever required. Also, the plan outlines roles and responsibility of the key personnel and contractors who will be in-charge of the responsibilities to manage the project site.

The EMP is generally

- Prepared in accordance with rules and requirements of the MoEF and CPCB/SPCB
- To ensure that the component of facility are operated in accordance with the design
- A process that confirms proper operation through supervision and monitoring
- A system that addresses public complaints during construction and operation of the facilities and
- A plan that ensures immediate implementation of remedial measures

M/s. Young Builders (P) Ltd.



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*Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi*

EMP

The key benefits of the EMP are that it offers means of managing the environmental performance thereby allowing it to contribute to improved environmental quality. The other benefits include cost control and improved relations with the stakeholders.

EMP includes four major elements:

- Commitment & Policy: The management will strive to provide and implement the Environmental Management Plan that incorporates all issues related to air, water, land and noise.
- Planning: This includes identification of environmental impacts, legal requirements and setting environmental objectives.
- Implementation: This comprises of resources available to the developers, accountability of contractors, training of operational staff associated with environmental control facilities and documentation of measures to be taken.
- Measurement & Evaluation: This includes monitoring, counteractive actions and record keeping.

It is suggested that as part of the EMP, a monitoring committee will be formed by M/s. Young Builders (P) Ltd. comprising of the site in-charge/coordinator, environmental group representative and project implementation team representative. The committee's role would be to ensure proper operation and management of the EMP including the regulatory compliance.

The components of the environmental management plan, potential impacts arising out of the project and remediation measures are summarized below in Table 1.



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ANNEXURE-13

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GRC Labs

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 NABL Accredited Laboratory (A Constituent Board of QCI), Chemical: T-2195, Biological: T-2196
 Head Office: E-375, Sector-03, Noida, Gautam Buddha Nagar, U.P. - 201301
 Phone Nos: 0120-4011020, 4011021, 4011022, 4011023, 4011024, 4011025, 4011026, 4011027, 4011028, 4011029, 4011030
 Fax: 0120-2100019, 0120-4011037
 Website: www.grc-labs.com, Email: info@grclabs.com

Test Report

Report Code: A20180127-002

Issue Date: 27.01.2018

Issued To: Expansion of Group Housing Complex At 18/3 Cavalry, Analysis Duration: 04.01.2018 to 26.01.2018
 Lane & 4 Chhaura Marg Near Vishwavidyalaya Metro Station,
 New Delhi

Sample Description: Ambient Air

RESULTS

Ambient Air Quality Analysis

SAMPLING DETAILS

| | |
|--------------------------------|--|
| Sampling Location | Project Site |
| Sample Collected by | Mr. Narendra Singh |
| Sampling Protocol | GRC LAB/STP/AIR/01 |
| Weather Condition | Clear Sky |
| Sampling Duration | 24 Hours |
| Sampling Duration for CO | 1 Hour |
| Sampler Location w.r.t. Height | 4.0 Meter above Ground Level |
| Sample Packing & Marking | Plastic Bottle / Zip Polybag & GRC LAB/STP/AIR/018 |

Test Parameter

| S. No. | Date | Particulate Matter (PM2.5); µg/m ³ | Particulate Matter (PM10); µg/m ³ | Sulphur Dioxide (SO ₂); µg/m ³ | Nitrogen Dioxide (NO ₂); µg/m ³ | Carbon Monoxide (CO); µg/m ³ |
|--------|------------|---|--|---|--|---|
| | | GRC/LAB/STP/AIR/03, Gravimetric Method | IS 5182 (Part 23):2006 | IS 5182 (Part 2):2001, Reaff.2006 | IS 5182 (Part 6):2006 | IS 5182 (Part 10):1999, Reaff. 2003 |
| 1 | 03.01.2018 | 240.6 | 412.3 | 9.3 | 71.6 | 5.0 |
| 2 | 05.01.2018 | 237.4 | 396.2 | 17.7 | 74.1 | 5.0 |
| 3 | 08.01.2018 | 195.7 | 368.4 | 20.4 | 82.3 | 5.0 |
| 4 | 11.01.2018 | 146.2 | 324.5 | 18.9 | 63.4 | 5.0 |
| 5 | 14.01.2018 | 227.9 | 436.8 | 29.7 | 84.5 | 5.0 |
| 6 | 17.01.2018 | 210.5 | 419.4 | 11.4 | 89.6 | 5.0 |
| 7 | 20.01.2018 | 183.4 | 318.9 | 18.3 | 84.0 | 5.0 |
| 8 | 24.01.2018 | 134.0 | 242.7 | 15.9 | 77.6 | 5.0 |

End of Report

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NABL Accredited Laboratory (A Constituent Board of QCI). Chemical: T-2195, Biological: T-2196
Head Office: F-375, Sector-03, Noida, Gautam Budh Nagar, U.P. - 201 301
Phone No.: 0120 - 4044630, 4044660, 4323120, Fax: 0120 - 2106519, 0120 - 4044675
Website: www.globeindia.com E-mail: info@globeindia.com

GRC India

Test Report

Report Code: W20180117-002

Issue Date: 17.01.2018

Issued To: Expansion of Group Housing Complex at I&J,
Cavalry Lane & 4, Chhatra Marg Near Vishwavidyalaya,
Metro Station: New Delhi.

Sample Received on: 04.01.2018
Analysis Duration: 05.01.2018 to 16.01.2018

Sample Description: Ground Water

RESULTS
Water Quality Analysis

SAMPLING DETAILS

Date of Sampling: 04.01.2018
Sampling Location: Project Site
Sample Collected by: Mr. Narendra Singh
Sampling Protocol: IS-3015(Pt-1)-1987, Reaff. 2003 & IS-1622-1984(Reaff. 2003)
Weather Condition: Clear Sky
Sample Quantity: 5 L (+00 ml)
Sample Packing & Mark: Plastic Glass Bottle & GRC/JAN/GWI

| S. No. | Parameters | Units | Limits (as per IS:10500-2012) | | Results | Test Method |
|--------|--|-------|-------------------------------|-------------------|-----------|--|
| | | | Desirable Limit | Permissible Limit | | |
| 1 | Color | Hazen | 5 | 15 | 5 | IS: 3025(Pt-4)-1983, Reaff. 2003 |
| 2 | Odour | - | Agreeable | Agreeable | Agreeable | IS: 3025(Pt-5)-1983, Reaff. 2003 |
| 3 | Taste | - | Agreeable | Agreeable | Agreeable | IS: 3025(Pt-8)-1984, Reaff. 2006 |
| 4 | Turbidity | NTU | 1 | 5 | 1 | IS: 3025(Pt-10)-1984, Reaff. 2006 |
| 5 | pH | - | 6.5-8.5 | No Relaxation | 7.51 | IS: 3025(Pt-11)-1983, Reaff. 2003 |
| 6 | Total Hardness (as CaCO ₃) | mg/l | 200 | 600 | 552 | IS: 3025(Pt-21)-1983, Reaff. 2003 APHA 22 nd Ed. 3110B (IAS) |
| 7 | Iron (as Fe) | mg/l | 0.3 | No Relaxation | 0.14 | (ICP-OES) 3111B (IAS) |
| 8 | Chlorides (as Cl) | mg/l | 250 | 1000 | 310 | IS: 3025(Pt-32)-1988, Reaff. 2003 |
| 9 | Fluoride (as F) | mg/l | 1 | 1.5 | 0.7 | APHA 22 nd Ed. 4500-F(D) |
| 10 | TDS | mg/l | 500 | 2000 | 1120 | IS: 3025(Pt-16)-1984, Reaff. 2006 |
| | Calcium (as Ca ²⁺) | mg/l | 75 | 200 | 132 | IS: 3025(Pt-40)-1991, Reaff. 2003 |
| 12 | Magnesium (as Mg ²⁺) | mg/l | 30 | 100 | 54 | APHA 22 nd Ed. 3500-Mg (D) |
| 13 | Copper (as Cu) | mg/l | 0.05 | 1.5 | 0.07 | APHA 22 nd Ed. 3120-B (ICP-OES) 3111B (IAS) |
| 14 | Manganese (as Mn) | mg/l | 0.1 | 0.3 | 0.05 | APHA 22 nd Ed. 3120-B (ICP-OES) 3111B (IAS) |
| 15 | Sulphate (as SO ₄) | mg/l | 200 | 400 | 95 | IS: 3025(Pt-24)-1986, Reaff. 2003 |

[Signature]
Authorized Signatory
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Note: 1. The results calculated only refer to the tested samples and listed parameters and do not endorse any product.
2. This certificate shall not be reproduced wholly or in part without prior written consent of the analyst.
3. The responsibility of the sample collection and its existence in the laboratory is on the client and not on the laboratory.

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 Head Office: P-375, Sector-63, Noida, Gautam Buddha Nagar, U.P. - 201 303
 Phone No: 0120 - 4041530, 4014660, 4321120; Fax: 0120 - 4095191, 4120 - 4041675
 Website: www.globechemlab.com E-mail: info@globechemlab.com

Test Report

Issue Date: 17.01.2018

Report Code: W20180117-002

| | | | | | |
|---|--------------|-------------------------|---------------|-------|---|
| 16. Nickel (as Ni) | mg/l | 45 | No Relaxation | 15 | IS - 3025(Pt-54)1986, Reaf-2003 |
| 17. Phosphate Compounds (as PO_4^{3-}) | mg/l | 0.001 | 0.002 | 0.001 | APIXA 22 nd Ed. 55101 (P) |
| 18. Mercury (as Hg) | mg/l | 0.001 | No Relaxation | 0.001 | APIXA 22 nd Ed. 5120 B (C/P) (S) VGMAL 3025 (Pt-54) 1986 |
| 19. Cadmium (as Cd) | mg/l | 0.005 | No Relaxation | 0.01 | APIXA 22 nd Ed. 5120 B (C/P) QES1 3114 (A) ASACIA |
| 20. Selenium (as Se) | mg/l | 0.01 | No Relaxation | 0.01 | APIXA 22 nd Ed. 5120 B (C/P) QES1 3114 (A) ASACIA |
| 21. Arsenic (as As) | mg/l | 0.01 | 0.05 | 0.01 | APIXA 22 nd Ed. 5120 B (C/P) QES1 3114 (A) ASACIA |
| 22. Cobalt (as Co) | mg/l | 0.05 | No Relaxation | 0.01 | APIXA 22 nd Ed. 5120 B (C/P) QES1 3114 (A) ASACIA |
| 23. Lead (as Pb) | mg/l | 0.01 | No Relaxation | 0.01 | APIXA 22 nd Ed. 5120 B (C/P) QES1 3114 (A) ASACIA |
| 24. Zinc (as Zn) | mg/l | 5 | 15 | 0.15 | APIXA 22 nd Ed. 5120 B (C/P) QES1 3114 (A) ASACIA |
| 25. Alkaline Detergent (as MBAS) | mg/l | 0.2 | 1 | 0.01 | APIXA 22 nd Ed. 5540 (P) |
| 26. Chromium (as Cr ⁶⁺) | mg/l | 0.05 | No Relaxation | 0.01 | IS - 3025(Pt-57) 2003 |
| 27. Mineral oil | mg/l | 0.5 | No Relaxation | 0.01 | IS - 3025(Pt-23)1986, Reaf-2003 |
| 28. Alkalinity (as $CaCO_3$) | mg/l | 200 | 600 | 600 | APIXA 22 nd Ed. 5120 B (C/P) (S) 5111 B (A) ASACIA IS 3025 (Pt-54) 1986 |
| 29. Ammonia (as NH ₃) | mg/l | 0.03 | 0.2 | 0.02 | IS - 3025(Pt-57) 2003, APIXA 22 nd Ed. 5120 B (C/P) (S) |
| 30. Boron (as B) | mg/l | 0.5 | 1 | 0.2 | |
| Microbiological Parameters | | | | | |
| 1. Total Coliform | MPN/100ml | Shall Not Be Detectable | Not Detected | 0 | IS - 1622-1984 (Reaf) 2003 |
| 2. E.coli | E.coli/100ml | Shall Not Be Detectable | Absent | 0 | IS - 1622-1984 (Reaf) 2003 |

**** End of Report ****

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Note: 1. The results indicated only refer to the tested samples and tested parameters and do not endorse any product.
 2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
 3. This certificate shall not be used in any advertising media or as evidence in the court of law without prior written consent of the laboratory.
 4. The samples received shall be destroyed after 30 days from the date of issue of the certificate unless specified otherwise and sample for biological tests.

ANNEXURE-14

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रजिस्ट्री सं. डी.एल.-33004/99

REGD. NO. D. L.-33004/99


भारत का राजपत्र
The Gazette of India

असाधारण
 EXTRAORDINARY
 भाग III—खण्ड 4
 PART III—Section 4
 प्राधिकार से प्रकाशित
 PUBLISHED BY AUTHORITY

सं. 217] नई दिल्ली, बुधवार, नवम्बर 18, 2009/कार्तिक 27, 1931
 No. 217] NEW DELHI, WEDNESDAY, NOVEMBER 18, 2009/KARTIKA 27, 1931

राष्ट्रीय परिवेशी वायु गुणवत्ता मानक
 केन्द्रीय प्रदूषण नियंत्रण बोर्ड
 अधिसूचना
 नई दिल्ली, 18 नवम्बर, 2009

सं. बी-29016/20/90/पी.सी.आई.-I.—वायु (प्रदूषण निवारण एवं नियंत्रण) अधिनियम, 1981 (1981 का 14) की धारा 16 की उपधारा (2) (एच) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए तथा अधिसूचना संख्या का.आ. 384(ई), दिनांक 11 अप्रैल, 1994 और का.आ. 935 (ई) दिनांक 14 अक्टूबर, 1998 के अधिक्रमण में केन्द्रीय प्रदूषण नियंत्रण बोर्ड इसके द्वारा तत्काल प्रभाव से राष्ट्रीय परिवेशी वायु गुणवत्ता मानक अधिसूचित करता है, जो इस प्रकार है-

राष्ट्रीय परिवेशी वायु गुणवत्ता मानक

| क्र. सं. | प्रदूषक | समय आधारित औसत | परिवेशी वायु में सान्द्रण | | |
|----------|---|-----------------------|---|---|---|
| | | | औद्योगिक, रिहायशी, ग्रामीण और अन्य क्षेत्र | पारिस्थितिकी य संवेदनशील क्षेत्र (केन्द्र सरकार द्वारा अधिसूचित) | प्रबोधन की पद्धति |
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1 | सल्फर डाई आक्साइड (SO ₂), µg/m ³ | वार्षिक* 24 घंटे** | 50 80 | 20 80 | -उन्नत वेस्ट और गार्डक -परसवेगनी परिदीप्ती |
| 2 | नाइट्रोजन डाई आक्साइड (NO ₂), µg/m ³ | वार्षिक* 24 घंटे** | 40 80 | 30 80 | -उपांतरित जेकब और हॉचाइजर (सोडियम-आर्सेनाइट) -रासायनिक संदीप्ति |
| 3 | विविक्त पदार्थ (10माइक्रोन से कम आकार)या PM ₁₀ , µg/m ³ | वार्षिक* 24 घंटे** | 60 100 | 60 100 | -हरात्मक विश्लेषण -टोयम -बीटा तनुकरण पद्धति |

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THE GAZETTE OF INDIA : EXTRAORDINARY

[PART III—Sec. 4]

| | | | | | |
|----|--|-----------------------|-------------|-------------|--|
| 4 | विविक्त पदार्थ (2.5 माइक्रान से कम आकार या PM _{2.5} , µg/m ³) | वार्षिक* 24 घंटे** | 40 60 | 40 60 | -हवात्मक विश्लेषण -टोयम -बीटा तनुकरण पद्धति |
| 5 | ओजोन (O ₃) µg/m ³ | 8 घंटे** 1 घंटा** | 100 180 | 100 180 | -पराबैंगनी द्वीपिकाल -रासायनिक संदीप्ति -रासायनिक पद्धति |
| 6 | सीसा (Pb) µg/m ³ | वार्षिक* 24 घंटे** | 0.50 1.0 | 0.50 1.0 | ई.पी.एम. 2000 या समरूप फिल्टर पेपर का प्रयोग करके AAS/ICP पद्धति -टेफ्लॉन फिल्टर पेपर का प्रयोग करते हुए ED-XRF |
| 7 | कार्बन मोनोक्साइड (CO) mg/m ³ | 8 घंटे** 1 घंटा** | 02 04 | 02 04 | -अविपेक्षी अवरक्त (NDIR) स्पैक्ट्रम मापन |
| 8 | अमोनिया (NH ₃) µg/m ³ | वार्षिक* 24 घंटे** | 100 400 | 100 400 | -रासायनिक संदीप्ति -इण्डोफिनॉल ब्ल्यू पद्धति |
| 9 | बैन्जीन (C ₆ H ₆) µg/m ³ | वार्षिक* | 05 | 05 | - गैस क्रोमेटोग्राफी आधारित सतत विश्लेषक -अधिशोषण तथा निशोषण के बाद गैस क्रोमेटोग्राफी |
| 10 | बैन्जो (ए) पाईरीन (BaP) केवल विविक्त कण, ng/m ³ | वार्षिक* | 01 | 01 | -विलायक निष्कर्षण के बाद HPLC/GC द्वारा विश्लेषण |
| 11 | आर्सेनिक (As) ng/m ³ | वार्षिक* | 06 | 06 | -असंवितरक अवरक्त स्पैक्ट्रोमिती ई.पी.एम. 2000 या समरूप फिल्टर पेपर का प्रयोग करके ICP/AAS पद्धति |
| 12 | निकिल (Ni) ng/m ³ | वार्षिक* | 20 | 20 | ई.पी.एम. 2000 या समरूप फिल्टर पेपर का प्रयोग करके ICP/AAS पद्धति |

* वर्ष में एक समान अंतरालों पर सप्ताह में दो बार प्रति 24 घंटे तक किसी एक स्थान विशेष पर लिये गये न्यूनतम 104 मापों का वार्षिक अंकगणीतीय औसत ।

** वर्ष में 98 प्रतिशत समय पर 24 घंटे या 8 घंटे या 1 घंटा के मानीटर मापमान, जो लागू हो, अनुपालन कये जाएंगे । दो प्रतिशत समय पर यह मापमान अधिक हो सकता है, किन्तु क्रमिक दो मानीटर करने के दिनों पर नहीं ।

टिप्पणी:

1. जब कभी और जहां भी किसी अपने-अपने प्रवर्ग के लिये दो क्रमिक प्रबोधन दिनों पर मापित मूल्य, ऊपर विनिर्दिष्ट सीमा से अधिक हो तो इसे नियमित या निरंतर प्रबोधन तथा अतिरिक्त अन्वेषण करवाने के लिये पर्याप्त कारण समझा जायेगा ।

संत प्रसाद गौतम, अध्यक्ष

[विज्ञापन-III/4/184/09/असा.]

टिप्पणी: राष्ट्रीय परिवेशी वायु गुणवत्ता मानक संबंधी अधिसूचनाएँ, केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा भारत के राजपत्र आसाधरण में अधिसूचना संख्या का.आ. 384 (ई), दिनांक 11 अप्रैल, 1994 एवं का. आ. 935 (ई), दिनांक 14 अक्टूबर, 1998 द्वारा प्रकाशित की गयी थी ।

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**NATIONAL AMBIENT AIR QUALITY STANDARDS
CENTRAL POLLUTION CONTROL BOARD
NOTIFICATION**

New Delhi, the 18th November, 2009

No. B-29016/20/90/PCI-I.—In exercise of the powers conferred by Sub-section (2) (h) of section 16 of the Air (Prevention and Control of Pollution) Act, 1981 (Act No.14 of 1981), and in supersession of the Notification No(s). S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October, 1998, the Central Pollution Control Board hereby notify the National Ambient Air Quality Standards with immediate effect, namely:-

NATIONAL AMBIENT AIR QUALITY STANDARDS

| S. No. | Pollutant | Time Weighted Average | Concentration in Ambient Air | | |
|--------|--|-----------------------|---|--|---|
| | | | Industrial, Residential, Rural and Other Area | Ecologically Sensitive Area (notified by Central Government) | Methods of Measurement |
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1 | Sulphur Dioxide (SO ₂), µg/m ³ | Annual* 24 hours** | 50 80 | 20 80 | - Improved West and Gaeke - Ultraviolet fluorescence |
| 2 | Nitrogen Dioxide (NO ₂), µg/m ³ | Annual* 24 hours** | 40 80 | 30 80 | - Modified Jacob & Hochheiser (Na-Arsenite) - Chemiluminescence |
| 3 | Particulate Matter (size less than 10µm) or PM ₁₀ µg/m ³ | Annual* 24 hours** | 60 100 | 60 100 | - Gravimetric - TOEM - Beta attenuation |
| 4 | Particulate Matter (size less than 2.5µm) or PM _{2.5} µg/m ³ | Annual* 24 hours** | 40 60 | 40 60 | - Gravimetric - TOEM - Beta attenuation |
| 5 | Ozone (O ₃) µg/m ³ | 8 hours** 1 hour** | 100 180 | 100 180 | - UV photometric - Chemiluminescence - Chemical Method |
| 6 | Lead (Pb) µg/m ³ | Annual* 24 hours** | 0.50 1.0 | 0.50 1.0 | - AAS /ICP method after sampling on EPM 2000 or equivalent filter paper - ED-XRF using Teflon filter |
| 7 | Carbon Monoxide (CO) mg/m ³ | 8 hours** 1 hour** | 02 04 | 02 04 | - Non Dispersive Infra Red (NDIR) spectroscopy |
| 8 | Ammonia (NH ₃) µg/m ³ | Annual* 24 hours** | 100 400 | 100 400 | - Chemiluminescence - Indophenol blue method |

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THE GAZETTE OF INDIA : EXTRAORDINARY

[PART III—Sec. 4]

| (1) | (2) | (3) | (4) | (5) | (6) |
|-----|--|---------|-----|-----|---|
| 9 | Benzene (C ₆ H ₆) µg/m ³ | Annual* | 05 | 05 | - Gas chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis |
| 10 | Benzo(a)Pyrene (BaP) - particulate phase only, ng/m ³ | Annual* | 01 | 01 | - Solvent extraction followed by HPLC/GC analysis |
| 11 | Arsenic (As), ng/m ³ | Annual* | 06 | 06 | - AAS /ICP method after sampling on EPM 2000 or equivalent filter paper |
| 12 | Nickel (Ni), ng/m ³ | Annual* | 20 | 20 | - AAS /ICP method after sampling on EPM 2000 or equivalent filter paper |

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

Note. — Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation.

SANT PRASAD GAUTAM, Chairman
[ADVT-III/4/184/09/Exty.]

Note: The notifications on National Ambient Air Quality Standards were published by the Central Pollution Control Board in the Gazette of India, Extraordinary vide notification No(s). S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October, 1998.

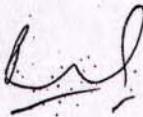
ANNEXURE-15

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GROUP HOUSING AT MALL ROAD

TRAFFIC ANALYSIS

July, 2011



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TRAFFIC ANALYSIS FOR PROPOSED GROUP HOUSING AT DU METRO STATION

1. Background

The proposed housing project on a plot of two hectares to the south of Vishwavidhyalaya metro station will accommodate group housing and EWS population. The site, adjacent to Mall Road is accessed from 12 m wide Cavalry Lane in the east. 24m wide Chhatra Marg is abutting to west of the site. The site is served by a network of grid iron pattern road network as seen in Figure 1. One of the two intersections on Mall Road facilitates right turning movement of vehicular traffic to and from the campus adjacent to the site. Cavalry Lane has left-in and left-out movement at its intersection with Mall Road. As seen in photographs, there are cycle rickshaws parked and operating from the metro station parking to the north-west of the site. Accordingly there are traffic conflicts to be addressed in the western edge of the site.

2. Existing Traffic Conditions

According to recent traffic survey conducted in July 2011, considering University activity, traffic volume on Cavalry Lane is 281 pcu during AM peak hour. The ADT is recorded to be 1844 pcu comprising of 1074 two-wheeler, 41 autos, 1091 cars etc. No buses has been recorded during survey on Cavalry Lane. Over a day eight good vehicles and 323 cycle rickshaws and cycles have been noted. In the afternoon peak hour (14:00-15:00hrs), the recorded traffic volume is 226 pcu. The annexure 1 give the details of pedestrian and vehicular traffic volumes in tabular and graphic form for easy comprehension. It will be noted that the surrounding roads have adequate capacity to absorb traffic generated by the proposed development. Further the placement of access position on Cavalry Lane is not likely to cause any traffic concerns in the context.



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3. Estimate of generated traffic

It is estimated that the housing scheme will generate some 320 pcu of vehicular traffic under a peak period of four to five hour duration. Critical peak hour traffic volume is estimated at 192 pcu egress and 25 pcu/h ingress traffic volume during AM period. The flow pattern will reverse during PM peak period though the duration of PM peak period is generally longer than the AM peak period. It must be stated that considerable proportion of person trips will be made by Metro. Reliance on other modes of transport like cycle rickshaw is not expected to be high as the site offers by virtue of its location, excellent conditions for walking. Cavalry Lane accordingly is envisaged to provide mainly the access to motorized vehicles. On adding incremental traffic to the existing traffic on Cavalry Lane, the aggregate traffic works out to be 601 pcu per hour. The v/c ratio considering local two lane two-way carriageway configuration works out to be 0.67 at level of service C as per IRC 106. This v/c has built in facility of right turn traffic, parked vehicles and frontage access from the road under consideration. With v/c ratio of 0.67 at LOS C, congested conditions are not expected on Cavalry Lane. Further there is likely to be diversion from car to public transport especially to Metro for essential trips and this is likely to reduce the generated vehicular traffic volume from the proposed development. Walking to Metro Station for travel purposes is likely to find favour with the residential population.

4. Traffic system

Access System: The main approach to the site is to be drawn from Cavalry Lane would as it provides better inflow and outflow options and has the spare traffic carrying capacity.

Circulatory road: Accordingly the main access is drawn from Cavalry Lane though option to access from the west is always there in case of emergency. The on site circulatory road is 13.5 m with 7.5m carriageway. Figures 2-4 give details of block layout and road sections.

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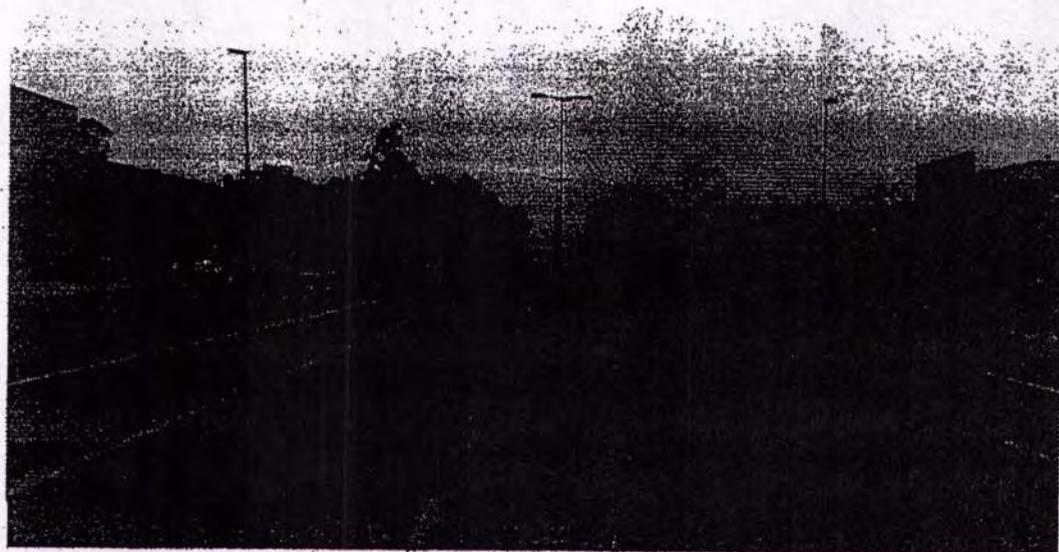

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Parking: In all 920 ecs of car parking is provided in combination of surface, stilt and basement at two levels. Basement parking engress is from two ramps. There are two separate egress ramps in the proposed configuration. During emergency all four ramps ensure quick evacuation in about 21 min and this traffic will be absorbed by access roads.

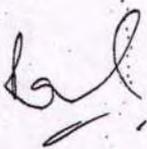
Pedestrian movement: Pedestrian and pick up and drop off facilities are provided as part of the circulatory network. Footpath along road provide for pedestrian movement. Figure 5 gives pedestrian and vehicular circulation around and to the site.

5. Suggestion

It is suggested that access may be drawn from Cavalry Lane to avoid direct conflict with cycle rickshaws plying on Chhatra Marg.



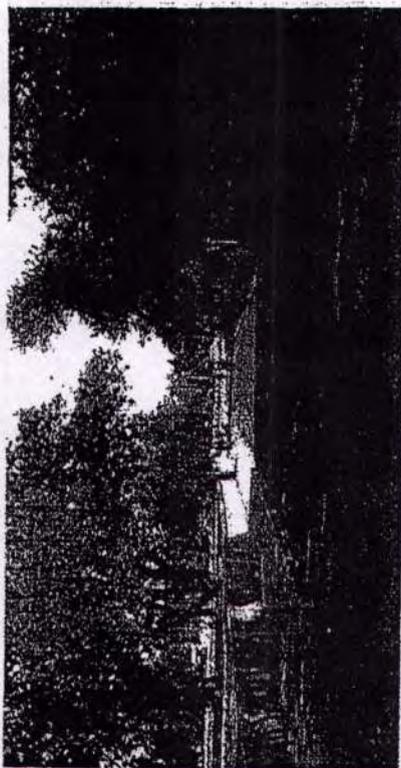
The Mall Road fronting Metro Station



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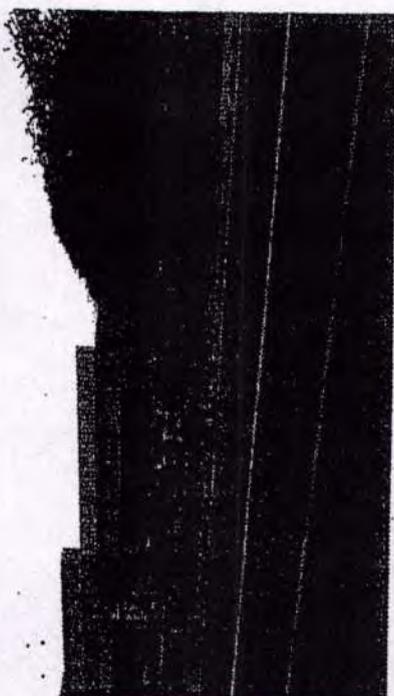
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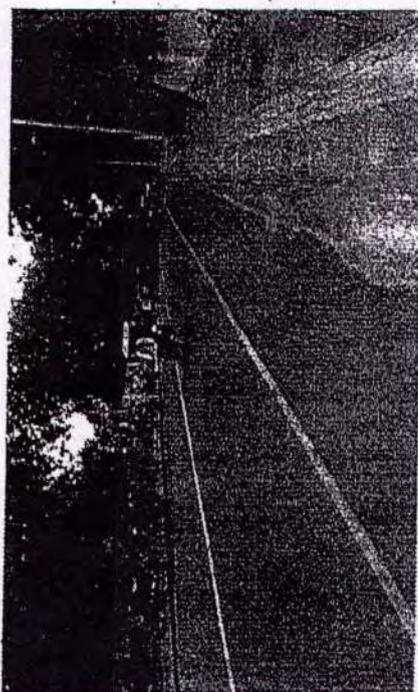
Traffic condition on Cavalry Road



Chhatra Marg (After University opening)



Rickshaw stand - DU Metro Station



Chhatra Marg (Before University opening)

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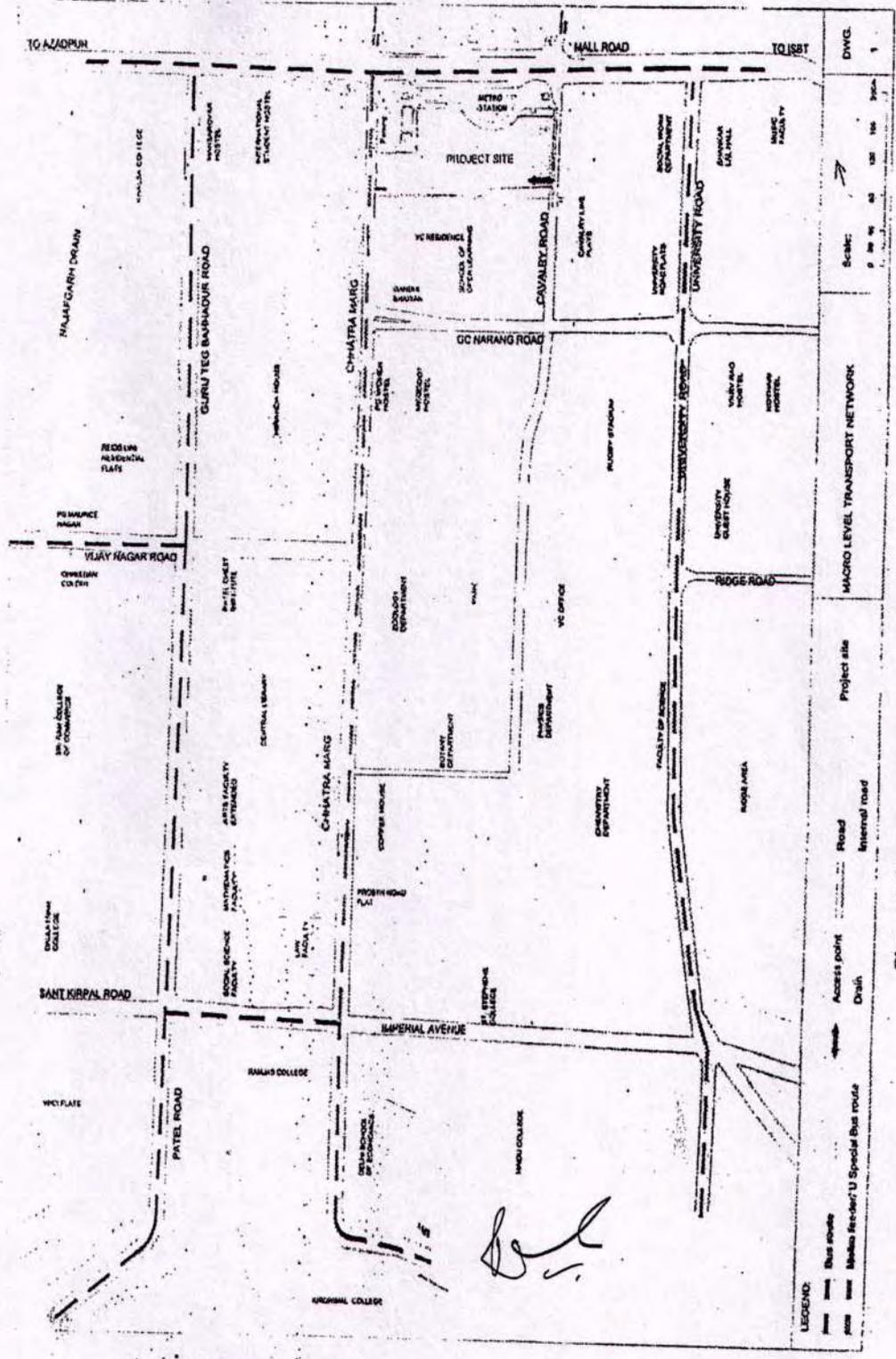
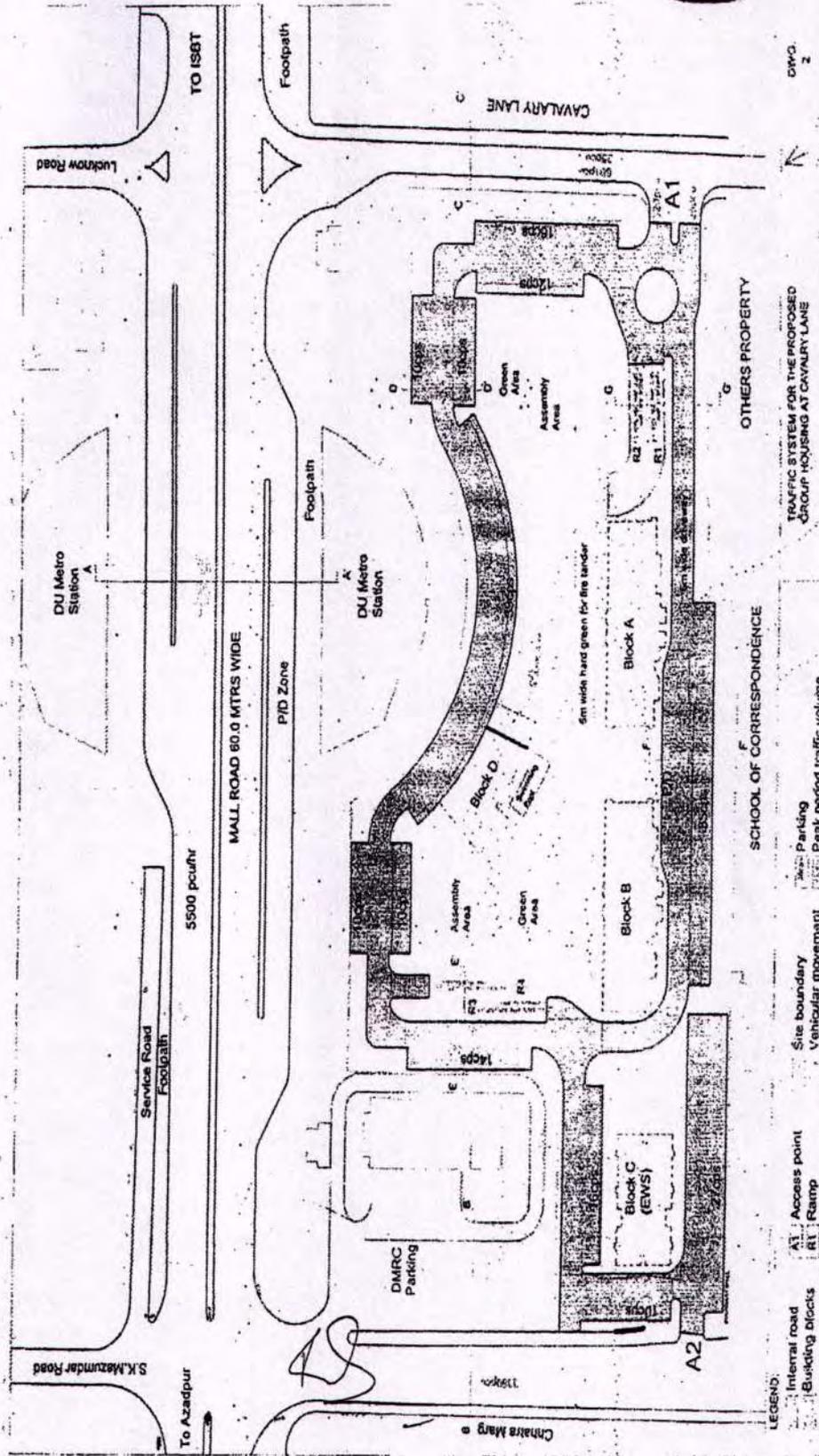


Figure 1: Transportation network at macro level

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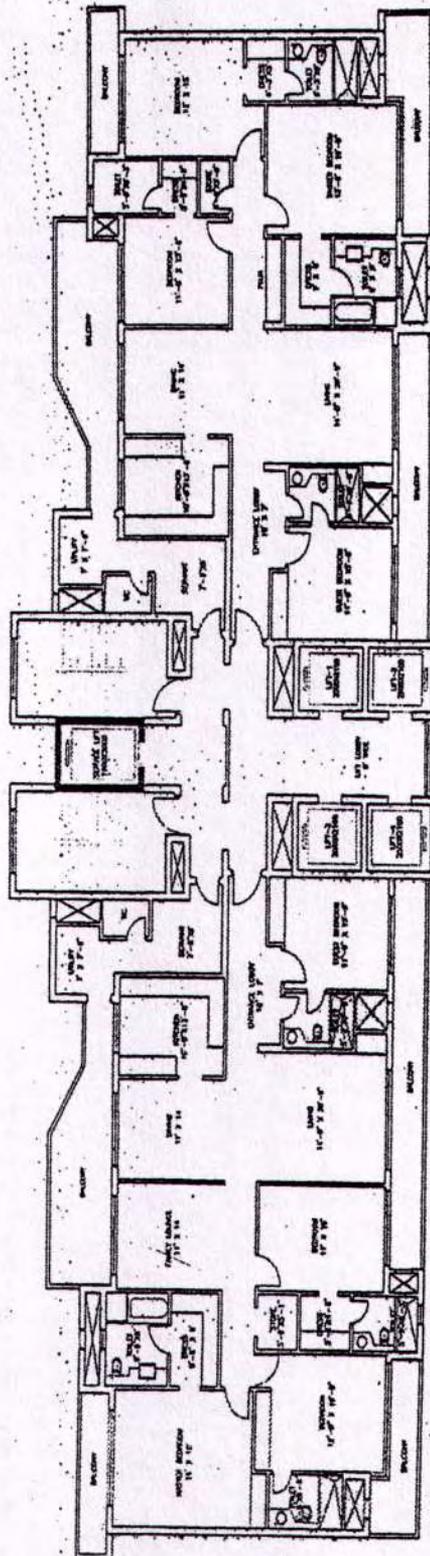
Figure 2: Traffic system of the proposed development

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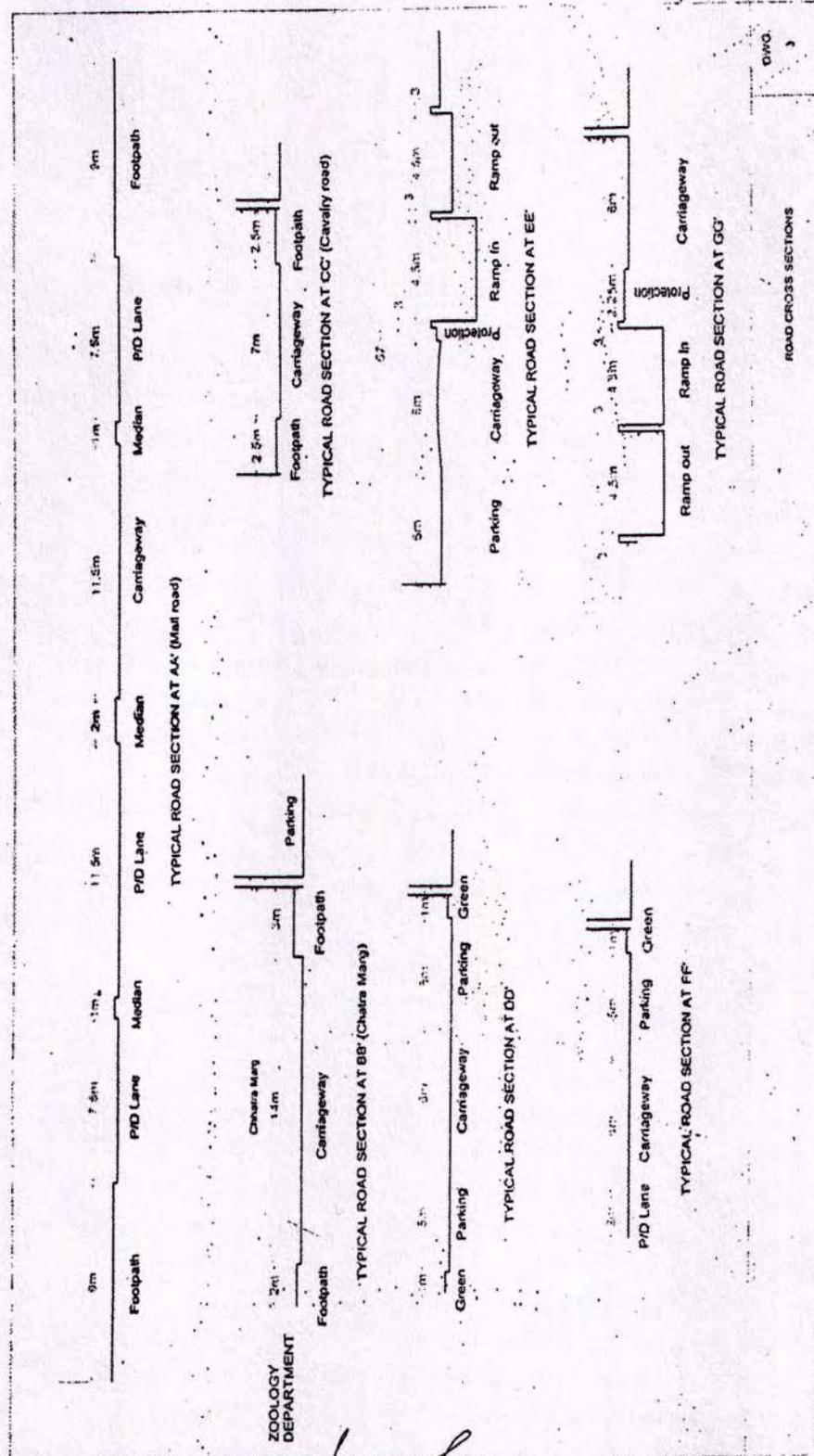


Figure 3: Typical road cross sections

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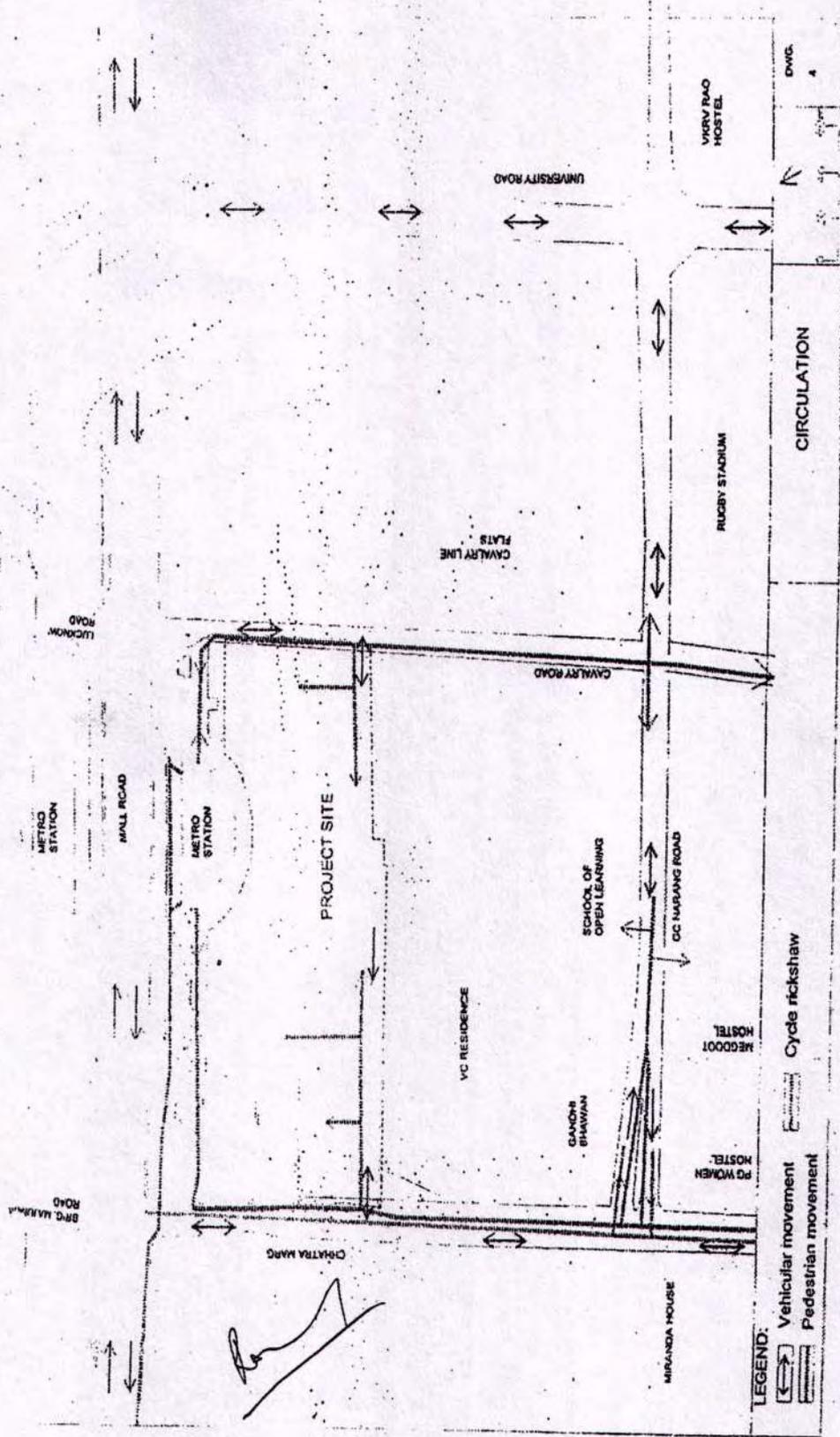
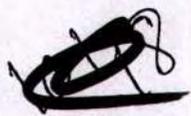


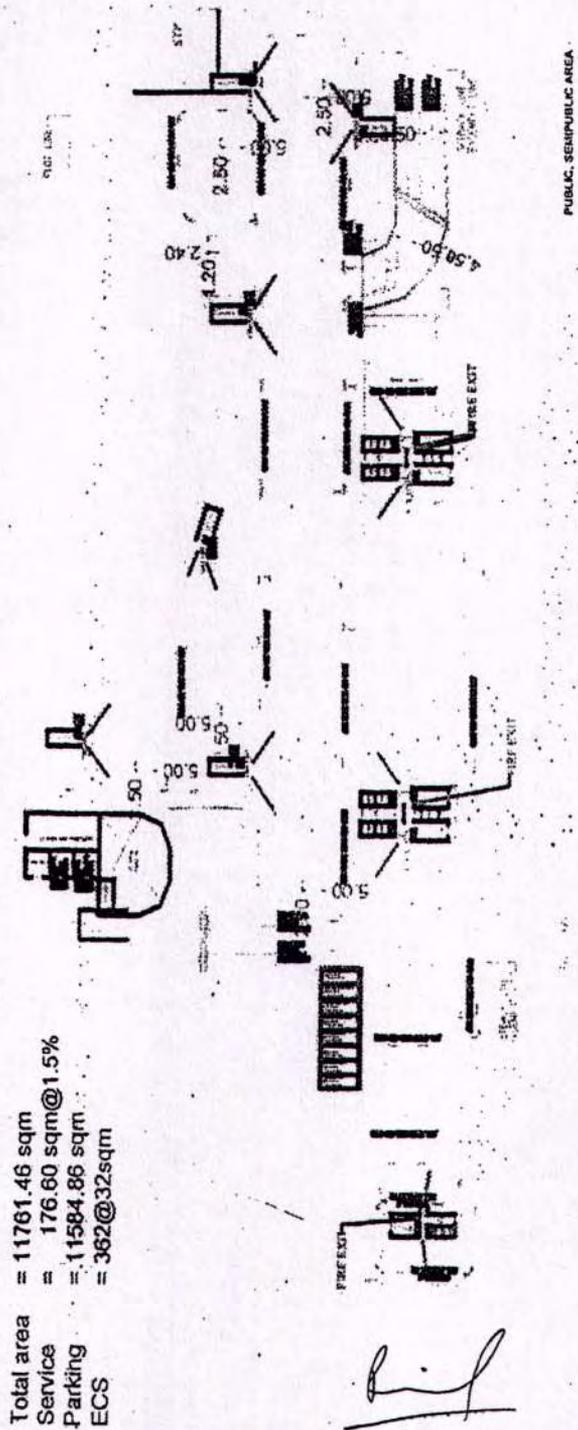
Figure 4: Circulation system

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Total area = 11761.46 sqm
 Service = 176.60 sqm @ 1.5%
 Parking = 11584.86 sqm
 ECS = 362 @ 32 sqm

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Figure 5a: Circulation at B1 level

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Total area = 11761.46 sqm
 Service = 414.01 sqm
 Parking = 11347.45 sqm
 ECS = 354@32sqm

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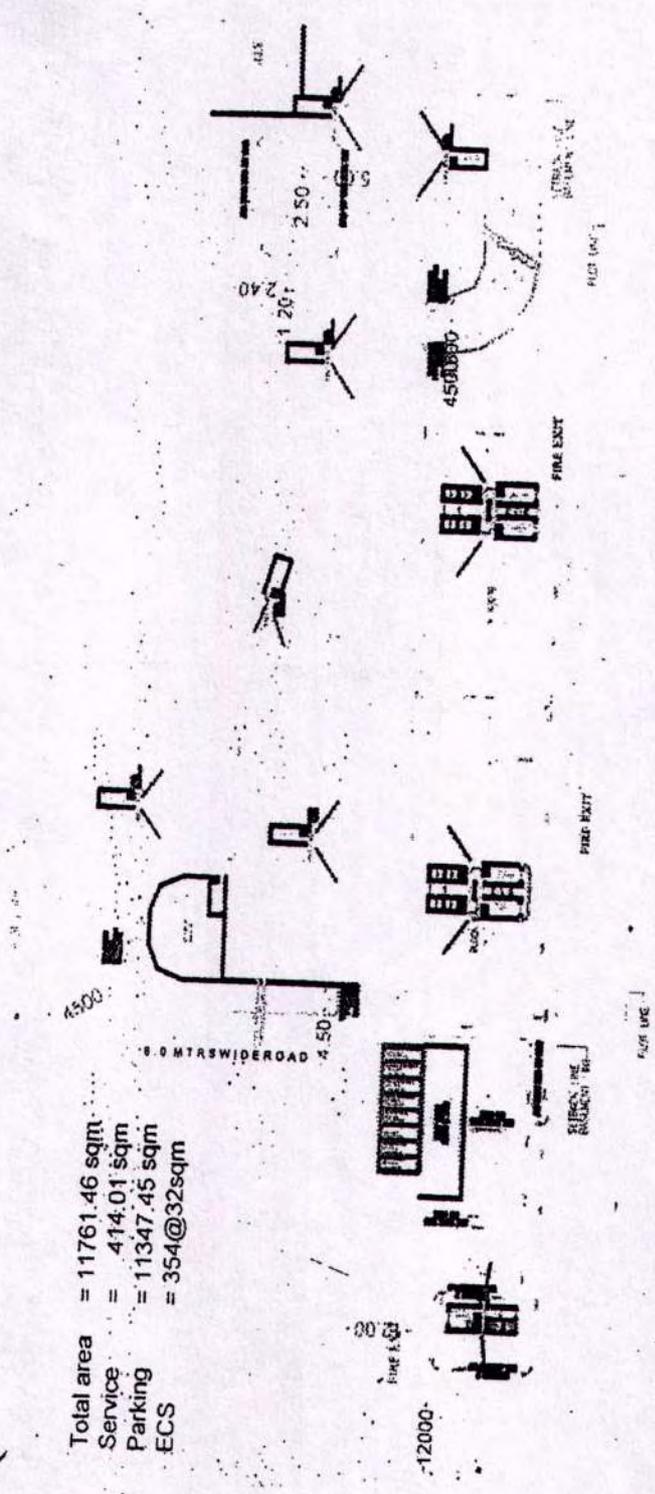


Figure 5b: Circulation at B2 level

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Table 1: Pedestrian volume count at adjacent roads

| Time | Pedestrian flow at Chhatra Marg (Hourly volume count on 21-07-2011) | |
|--|---|------------------|
| | To Delhi University | To Metro Station |
| 0600 - 0700 | 63 | 28 |
| 0700 - 0800 | 363 | 65 |
| 0800 - 0900 | 1049 | 146 |
| 0900 - 1000 | 1760 | 141 |
| 1000 - 1100 | 762 | 304 |
| 1100 - 1200 | 710 | 385 |
| 1200 - 1300 | 1382 | 579 |
| 1300 - 1400 | 1370 | 935 |
| 1400 - 1500 | 1173 | 1187 |
| 1500 - 1600 | 564 | 1205 |
| 1600 - 1700 | 327 | 743 |
| 1700 - 1800 | 213 | 450 |
| 1800 - 1900 | 189 | 609 |
| 1900 - 2000 | 197 | 313 |
| 2000 - 2100 | 89 | 142 |
| 2100 - 2200 | 39 | 42 |
| Total | 10250 | 7274 |
| Pedestrian flow at Cavalry Lane (Hourly volume count on 21-7-2011) | | |
| Time | To-Delhi University | To Metro Station |
| 0600 - 0700 | 16 | 19 |
| 0700 - 0800 | 64 | 25 |
| 0800 - 0900 | 97 | 84 |
| 0900 - 1000 | 132 | 165 |
| 1000 - 1100 | 76 | 158 |
| 1100 - 1200 | 181 | 160 |
| 1200 - 1300 | 62 | 189 |
| 1300 - 1400 | 77 | 145 |
| 1400 - 1500 | 103 | 107 |
| 1500 - 1600 | 67 | 114 |
| 1600 - 1700 | 67 | 94 |
| 1700 - 1800 | 65 | 132 |
| 1800 - 1900 | 67 | 137 |
| 1900 - 2000 | 63 | 60 |
| 2000 - 2100 | 53 | 29 |
| 2100 - 2200 | 19 | 27 |
| Total | 1209 | 1645 |
| Total | | 17524 |
| Total | | 2854 |

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Table 3: Average Daily Traffic volume count on Chaatra

Hourly mid block count at Chhatra Marg for both direction (21/07/2011)

| Time of Survey | Passenger Vehicle | | | | Buses | | | Goods Vehicles | | | Slow Moving Vehicle | | | Total | |
|----------------|-------------------|------|---------------|------|-----------|-----|-----------|----------------|-----|-----------|---------------------|----------------|-----------|---------|-------|
| | Two Wheeler | Auto | Car/Jeep/VA n | Taxi | Sub total | Bus | Metro Bus | Truck | LCV | Sub total | Cycle | Cycle Rickshaw | Sub total | Vehicle | PCU |
| 0600-0700 | 06 | 12 | 116 | 10 | 228 | 6 | 0 | 0 | 0 | 6 | 63 | 87 | 130 | 384 | 326 |
| 0700-0800 | 155 | 29 | 137 | 6 | 327 | 3 | 0 | 3 | 3 | 6 | 53 | 218 | 271 | 608 | 622 |
| 0800-0900 | 243 | 89 | 306 | 14 | 652 | 7 | 0 | 2 | 2 | 5 | 141 | 1565 | 1706 | 2370 | 2970 |
| 0900-1000 | 117 | 117 | 306 | 15 | 746 | 13 | 0 | 0 | 0 | 13 | 162 | 162 | 175 | 2724 | 3335 |
| 1000-1100 | 227 | 109 | 336 | 20 | 692 | 5 | 0 | 2 | 4 | 6 | 64 | 1425 | 1489 | 2192 | 2753 |
| 1100-1200 | 235 | 75 | 287 | 6 | 603 | 5 | 0 | 1 | 1 | 2 | 59 | 964 | 1023 | 1633 | 1977 |
| 1200-1300 | 232 | 64 | 155 | 17 | 469 | 3 | 0 | 0 | 1 | 1 | 65 | 891 | 956 | 1429 | 1716 |
| 1300-1400 | 292 | 68 | 290 | 15 | 663 | 9 | 0 | 0 | 0 | 0 | 38 | 1214 | 1350 | 1841 | 2391 |
| 1400-1500 | 114 | 114 | 350 | 14 | 692 | 11 | 0 | 0 | 0 | 11 | 123 | 123 | 135 | 2076 | 2681 |
| 1500-1600 | 239 | 112 | 221 | 12 | 584 | 4 | 0 | 4 | 0 | 4 | 49 | 630 | 678 | 1271 | 1451 |
| 1600-1700 | 183 | 73 | 235 | 6 | 497 | 3 | 0 | 0 | 1 | 1 | 57 | 666 | 723 | 1224 | 1443 |
| 1700-1800 | 232 | 70 | 279 | 13 | 594 | 4 | 1 | 1 | 1 | 2 | 43 | 454 | 497 | 1098 | 1189 |
| 1800-1900 | 184 | 50 | 214 | 15 | 443 | 2 | 1 | 0 | 0 | 0 | 79 | 335 | 404 | 850 | 864 |
| 1900-2000 | 248 | 94 | 244 | 5 | 569 | 3 | 0 | 0 | 0 | 0 | 121 | 410 | 531 | 1123 | 1147 |
| 2000-2100 | 204 | 58 | 245 | 6 | 513 | 0 | 0 | 0 | 0 | 0 | 169 | 324 | 493 | 1006 | 980 |
| 2100-2200 | 117 | 16 | 106 | 7 | 246 | 1 | 1 | 0 | 0 | 0 | 25 | 144 | 169 | 417 | 415 |
| Total | 3306 | 1167 | 3810 | 175 | 8458 | 89 | 4 | 14 | 14 | 28 | 1219 | 12393 | 13612 | 22191 | 26204 |

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Hourly mid block count at Cavalry Lane from Metro Station to Delhi University - 21/04/2011

Table 1: Pedestrian volume count at adjacent roads

| Time of Survey | Two Wheeler | | | Auto | | | Taxi | | | Sub total | | | Goods Vehicles | | | | Slow Moving Vehicle | | | Total | |
|----------------|-------------|------|-----|-------------|------|---|-------------|------|-----|-----------|-----|--------------|----------------|-----|-------|-----------|---------------------|----------------|-----------|---------|-----|
| | Two Wheeler | Auto | n | Two Wheeler | Auto | n | Two Wheeler | Auto | n | Sub total | Bus | Metro Feeder | Sub total | LCV | Truck | Sub total | Cycle | Cycle Rickshaw | Sub total | Vehicle | PCU |
| 0600-0700 | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 | 16 | 18 |
| 0700-0800 | 7 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 16 | 12 |
| 0800-0900 | 10 | 2 | 12 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 21 | |
| 0900-1000 | 18 | 1 | 23 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 20 | 82 | 43 |
| 1000-1100 | 59 | 1 | 31 | 0 | 0 | 0 | 0 | 0 | 91 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 86 | 84 |
| 1100-1200 | 70 | 1 | 57 | 0 | 0 | 0 | 0 | 0 | 124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 | 131 | 130 |
| 1200-1300 | 68 | 0 | 58 | 0 | 0 | 0 | 0 | 0 | 126 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 128 | 83 |
| 1300-1400 | 42 | 4 | 41 | 0 | 0 | 0 | 0 | 0 | 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 89 | 87 |
| 1400-1500 | 13 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 13 | 170 | 128 |
| 1500-1600 | 19 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 35 | 29 |
| 1600-1700 | 24 | 2 | 20 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 43 | 33 |
| 1700-1800 | 12 | 1 | 24 | 0 | 0 | 0 | 0 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 15 | 61 | 42 |
| 1800-1900 | 17 | 1 | 31 | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 9 | 47 | 37 |
| 1900-2000 | 7 | 1 | 14 | 0 | 0 | 0 | 0 | 0 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 6 | 67 | 46 |
| 2000-2100 | 14 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 25 | 20 |
| 2100-2200 | 460 | 20 | 447 | 0 | 0 | 0 | 0 | 0 | 927 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 | 28 | 17 |
| Total | | | | | | | | | | | | | | | | | | | | 1031 | 754 |

Hourly mid block count at Cavalry Lane (from Metro Station to Delhi University - 21/04/2011)

| Time of Survey | Passenger Vehicle | | | Buses | | | Goods Vehicles | | | Slow Moving Vehicle | | | Total | | | | | | | | |
|----------------|-------------------|------|------------|-------------|------|------------|----------------|------|------------|---------------------|-------|-----------|-------|----------------|-----------|---------|------|--|--|--|--|
| | Two Wheeler | Auto | Cartage/Vs | Two Wheeler | Auto | Cartage/Vs | Two Wheeler | Auto | Cartage/Vs | Sub total | Truck | Sub total | Cycle | Cycle Rickshaw | Sub total | Vehicle | PCU | | | | |
| 0600-0700 | 5 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 14 | 19 | | | | |
| 0700-0800 | 5 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 11 | 0 | 11 | 22 | 14 | | | | |
| 0800-0900 | 35 | 1 | 16 | 0 | 0 | 0 | 0 | 0 | 57 | 0 | 0 | 0 | 29 | 0 | 29 | 88 | 53 | | | | |
| 0900-1000 | 72 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 98 | 0 | 0 | 0 | 26 | 0 | 26 | 126 | 76 | | | | |
| 1000-1100 | 43 | 2 | 35 | 0 | 0 | 0 | 0 | 0 | 81 | 0 | 0 | 0 | 37 | 0 | 37 | 108 | 73 | | | | |
| 1100-1200 | 32 | 3 | 31 | 0 | 0 | 0 | 0 | 0 | 66 | 0 | 0 | 0 | 3 | 0 | 3 | 69 | 52 | | | | |
| 1200-1300 | 88 | 1 | 51 | 0 | 0 | 0 | 0 | 0 | 120 | 0 | 0 | 0 | 11 | 0 | 11 | 131 | 82 | | | | |
| 1300-1400 | 15 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 0 | 18 | 0 | 18 | 115 | 65 | | | | |
| 1400-1500 | 50 | 3 | 40 | 0 | 0 | 0 | 0 | 0 | 83 | 0 | 0 | 0 | 7 | 0 | 7 | 100 | 72 | | | | |
| 1500-1600 | 29 | 0 | 51 | 0 | 0 | 0 | 0 | 0 | 80 | 0 | 0 | 0 | 11 | 0 | 11 | 91 | 71 | | | | |
| 1600-1700 | 41 | 2 | 64 | 0 | 0 | 0 | 0 | 0 | 107 | 0 | 0 | 0 | 7 | 0 | 7 | 115 | 82 | | | | |
| 1700-1800 | 35 | 0 | 47 | 0 | 0 | 0 | 0 | 0 | 82 | 0 | 0 | 0 | 16 | 0 | 16 | 98 | 73 | | | | |
| 1800-1900 | 37 | 1 | 51 | 0 | 0 | 0 | 0 | 0 | 89 | 0 | 0 | 0 | 18 | 0 | 18 | 107 | 80 | | | | |
| 1900-2000 | 3 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 4 | 0 | 4 | 24 | 21 | | | | |
| 2000-2100 | 614 | 21 | 644 | 0 | 0 | 0 | 0 | 0 | 1278 | 0 | 0 | 0 | 223 | 0 | 223 | 1506 | 1090 | | | | |
| Total | | | | | | | | | | | | | | | | | | | | | |

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Table 5: Average Daily Traffic volume count on Cavalry Lane

Hourly mid block count at Cavalry Lane for both direction (2/10/2011)

| Time of Survey | Passenger Vehicle | | | | Buses | | | | Goods Vehicles | | | | Slow Moving Vehicle | | | | Total | |
|----------------|-------------------|------|--------------|------|-----------|-----|--------------|-----------|----------------|-------|-----------|-------|---------------------|-----------|---------|------|-------|--|
| | Two Wheelier | Auto | Car/Jeep/Van | Taxi | Sub total | Bus | Metro Feeder | Sub total | LCV | Truck | Sub total | Cycle | Cycle Rickshaw | Sub total | Vehicle | PCU | | |
| 0600-0700 | 9 | 0 | 10 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 10 | 29 | 20 | | |
| 0700-0800 | 12 | 2 | 10 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 1 | 14 | 28 | 26 | | |
| 0800-0900 | 48 | 3 | 30 | 0 | 81 | 0 | 0 | 0 | 1 | 0 | 1 | 29 | 0 | 29 | 111 | 73 | | |
| 0900-1000 | 90 | 1 | 49 | 0 | 140 | 0 | 0 | 0 | 0 | 0 | 0 | 48 | 0 | 48 | 182 | 119 | | |
| 1000-1100 | 102 | 2 | 87 | 0 | 172 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 0 | 32 | 204 | 137 | | |
| 1100-1200 | 141 | 1 | 105 | 0 | 247 | 0 | 0 | 0 | 1 | 0 | 1 | 35 | 0 | 36 | 270 | 181 | | |
| 1200-1300 | 100 | 3 | 80 | 0 | 182 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 197 | 145 | | |
| 1300-1400 | 110 | 5 | 82 | 0 | 207 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 13 | 220 | 159 | | |
| 1400-1500 | 140 | 5 | 133 | 0 | 278 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 29 | 311 | 226 | | |
| 1500-1600 | 26 | 0 | 38 | 0 | 67 | 0 | 0 | 0 | 4 | 0 | 4 | 2 | 0 | 2 | 73 | 60 | | |
| 1600-1700 | 69 | 7 | 59 | 0 | 135 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 8 | 143 | 105 | | |
| 1700-1800 | 53 | 2 | 71 | 0 | 128 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 26 | 182 | 113 | | |
| 1800-1900 | 53 | 3 | 88 | 0 | 144 | 0 | 0 | 0 | 2 | 0 | 2 | 16 | 0 | 16 | 162 | 129 | | |
| 1900-2000 | 52 | 1 | 78 | 0 | 131 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 24 | 155 | 117 | | |
| 2000-2100 | 44 | 2 | 85 | 0 | 111 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 21 | 132 | 100 | | |
| 2100-2200 | 17 | 0 | 25 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 8 | 50 | 38 | | |
| Total | 1074 | 41 | 1091 | 0 | 2206 | 0 | 0 | 0 | 8 | 0 | 8 | 322 | 1 | 323 | 2537 | 1844 | | |

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Pedestrian flow at Chhatra Marg (21 Jul 2011)

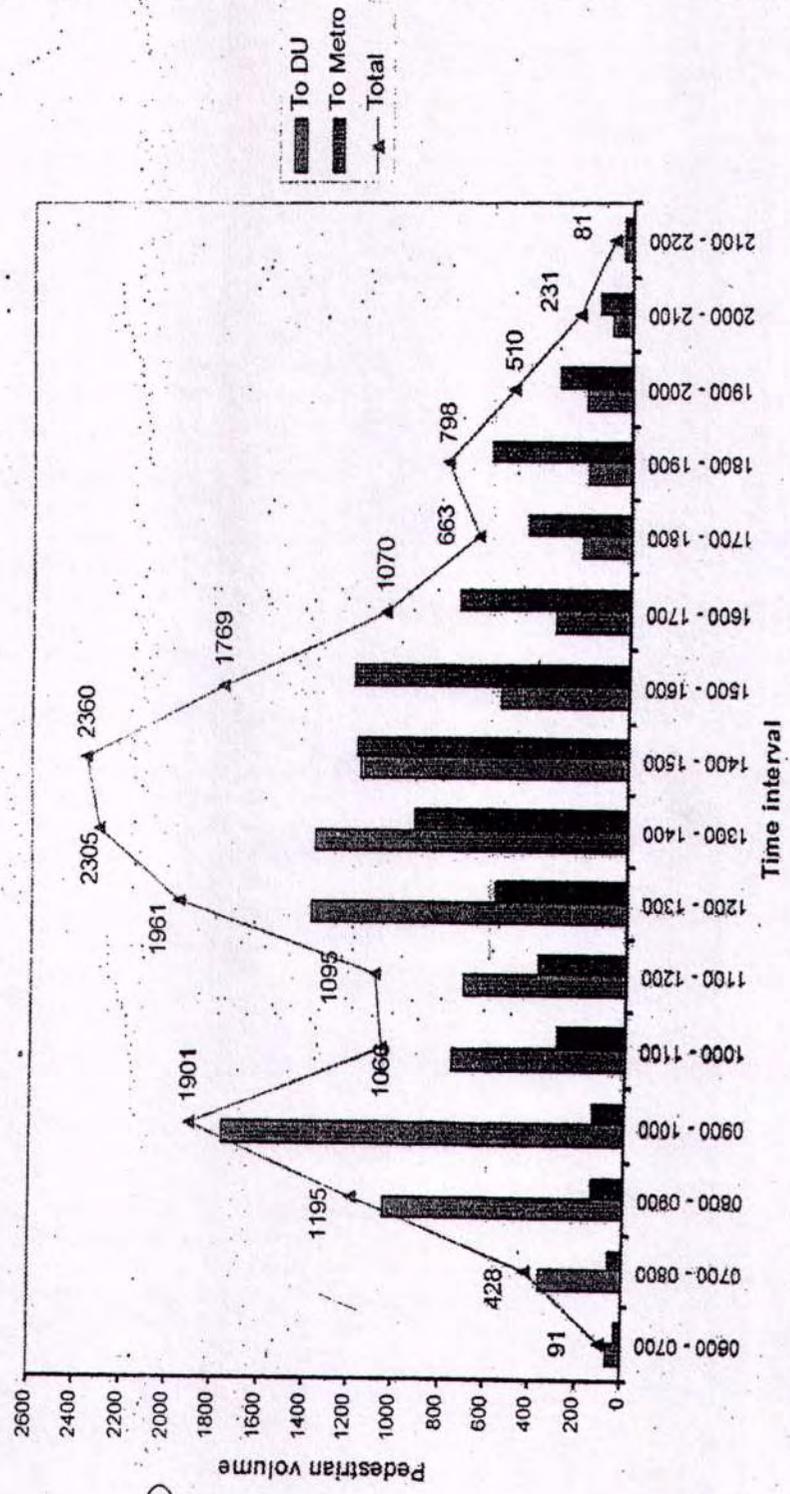


Diagram 1: Hourly variation of pedestrian volume con Chhatra Marg

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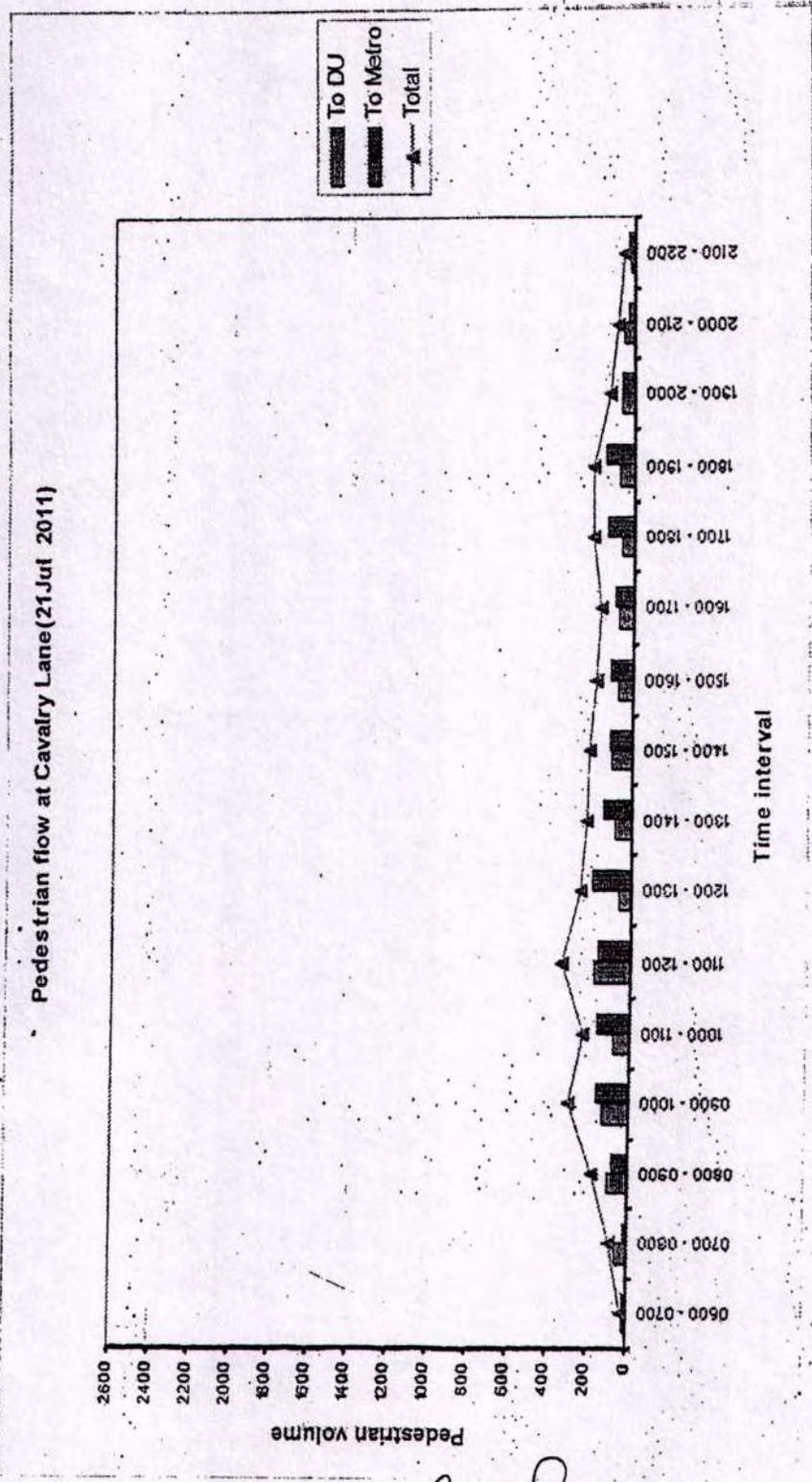


Diagram 2: Hourly variation of pedestrian volume con Cavalry Lane

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Vehicular flow at Chhatra Marg (21 Jul 2011)
From DU to Metro Station

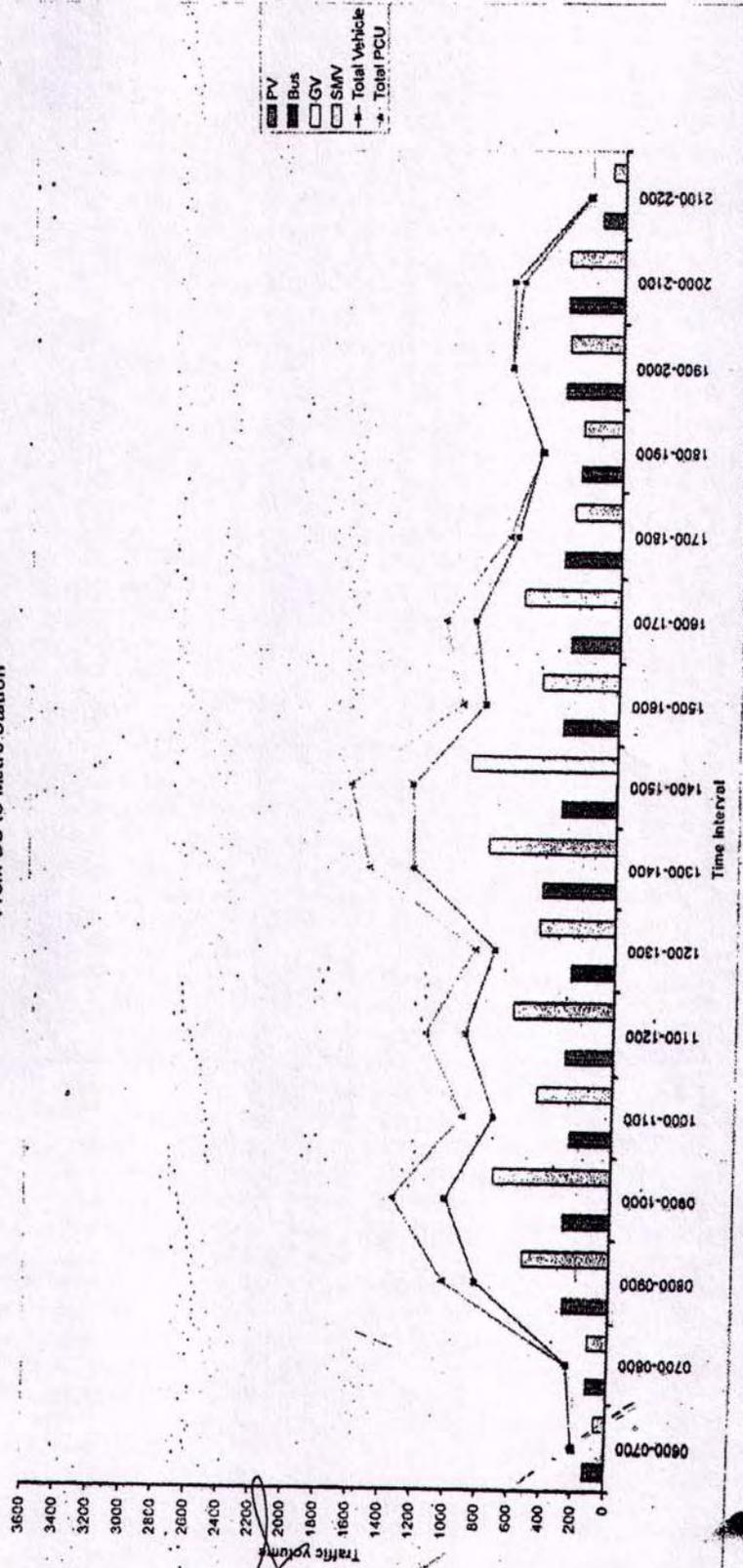


Diagram 3a: Hourly variation traffic volume on Chhatra Marg from DU to Metro Station

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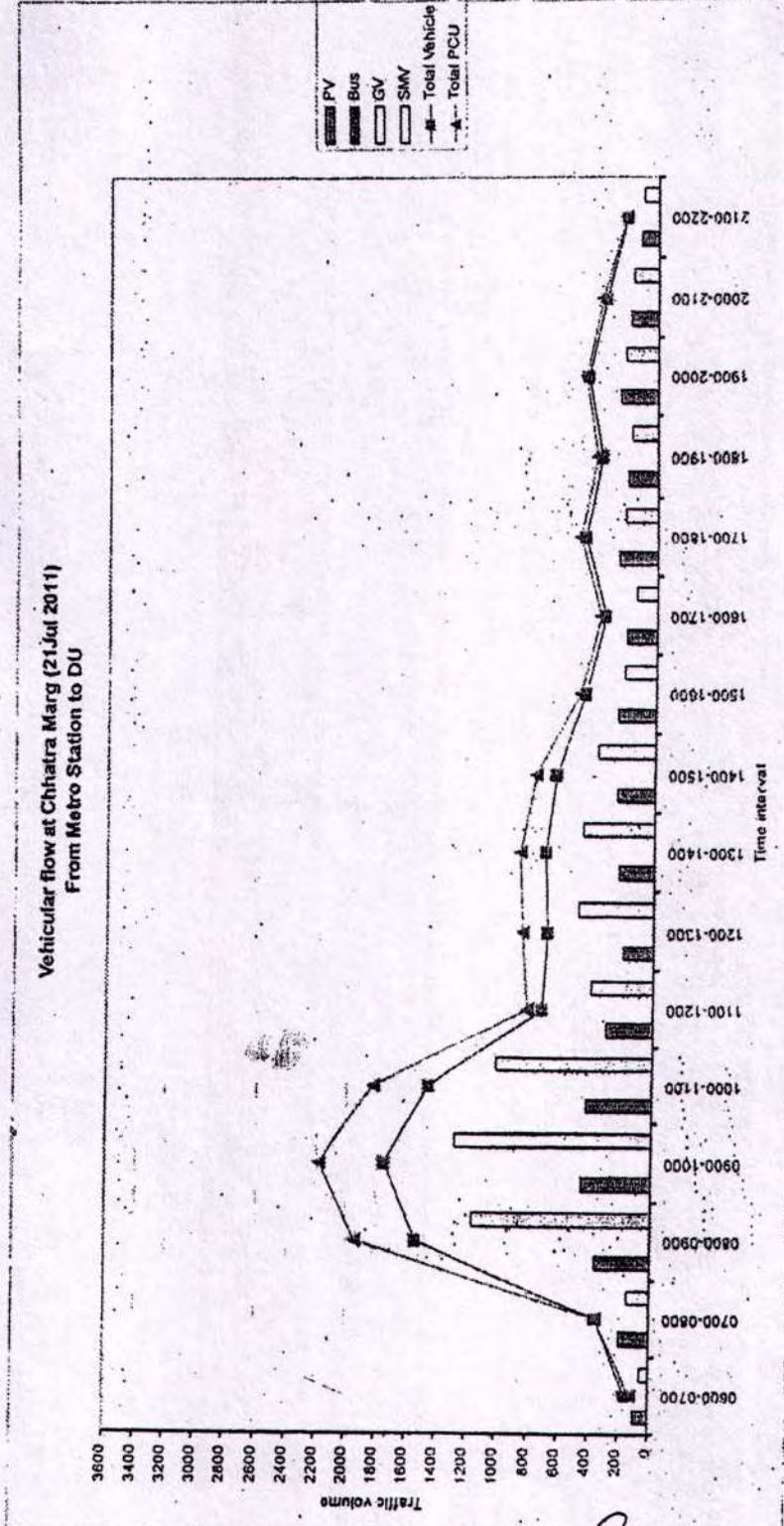


Diagram 3b: Hourly variation traffic volume on Chhatra Marg from Metro Station to DU

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Vehicular flow at Chhatra Marg for both direction (21 Jul 2011)

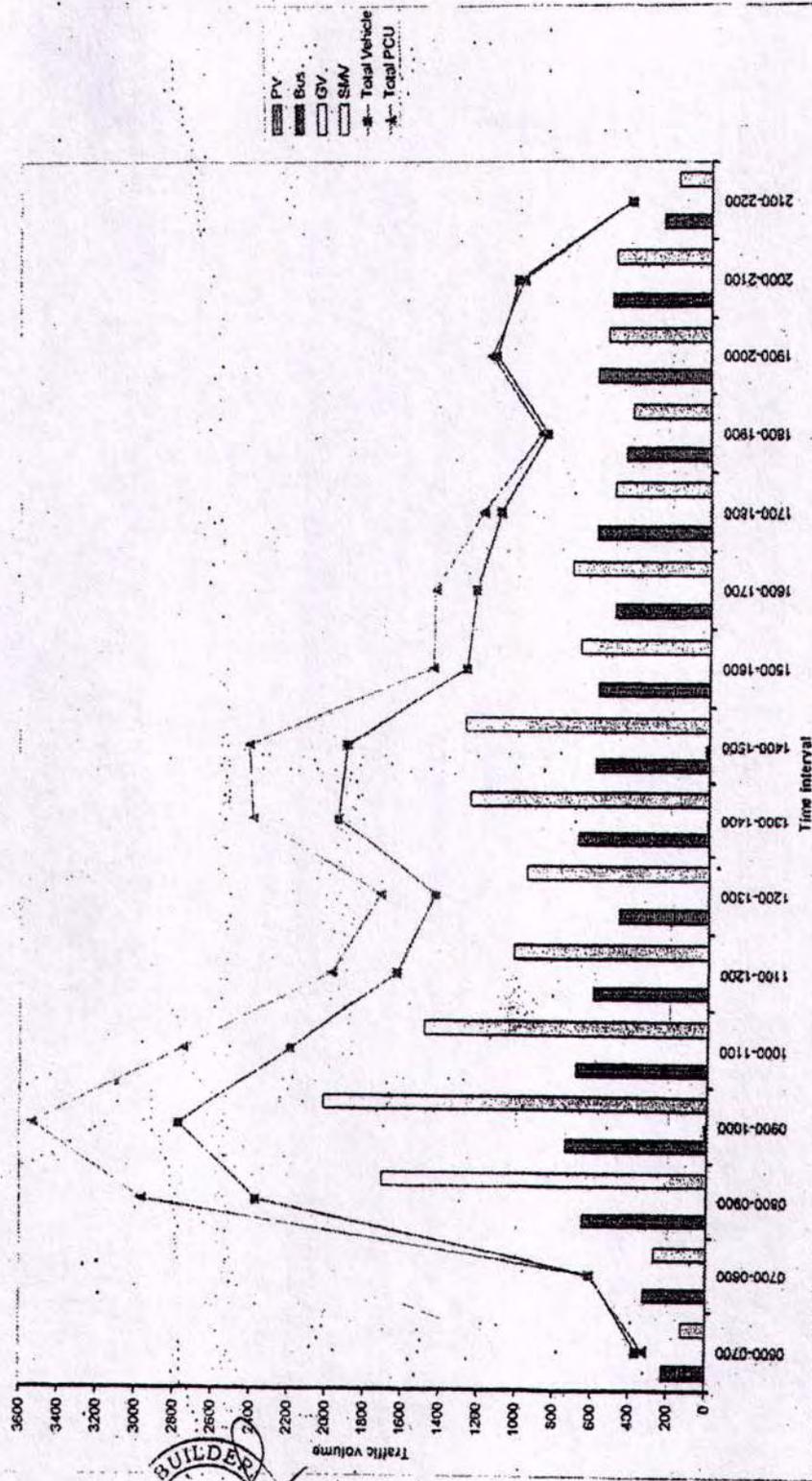


Diagram 3c: Hourly variation traffic volume on Chhatra Marg for both direction



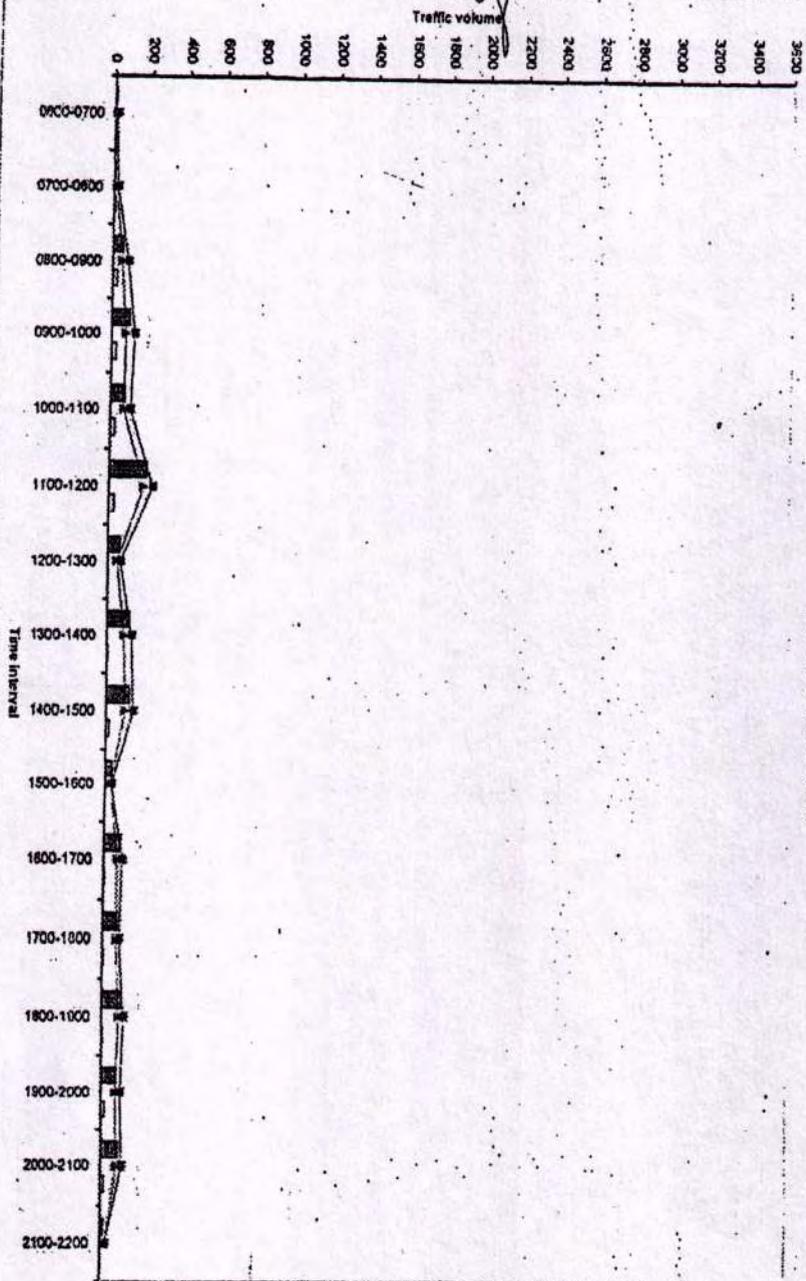
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Diagram 4b: Hourly variation traffic volume on Cavalry Lane from Metro Station to DU



■ PV
 □ GV
 ▨ SMV
 - Total Vehicle
 A - Total PCU

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Vehicular flow at Cavalry Lane (21 Jul 2011)
From DU to Metro Station

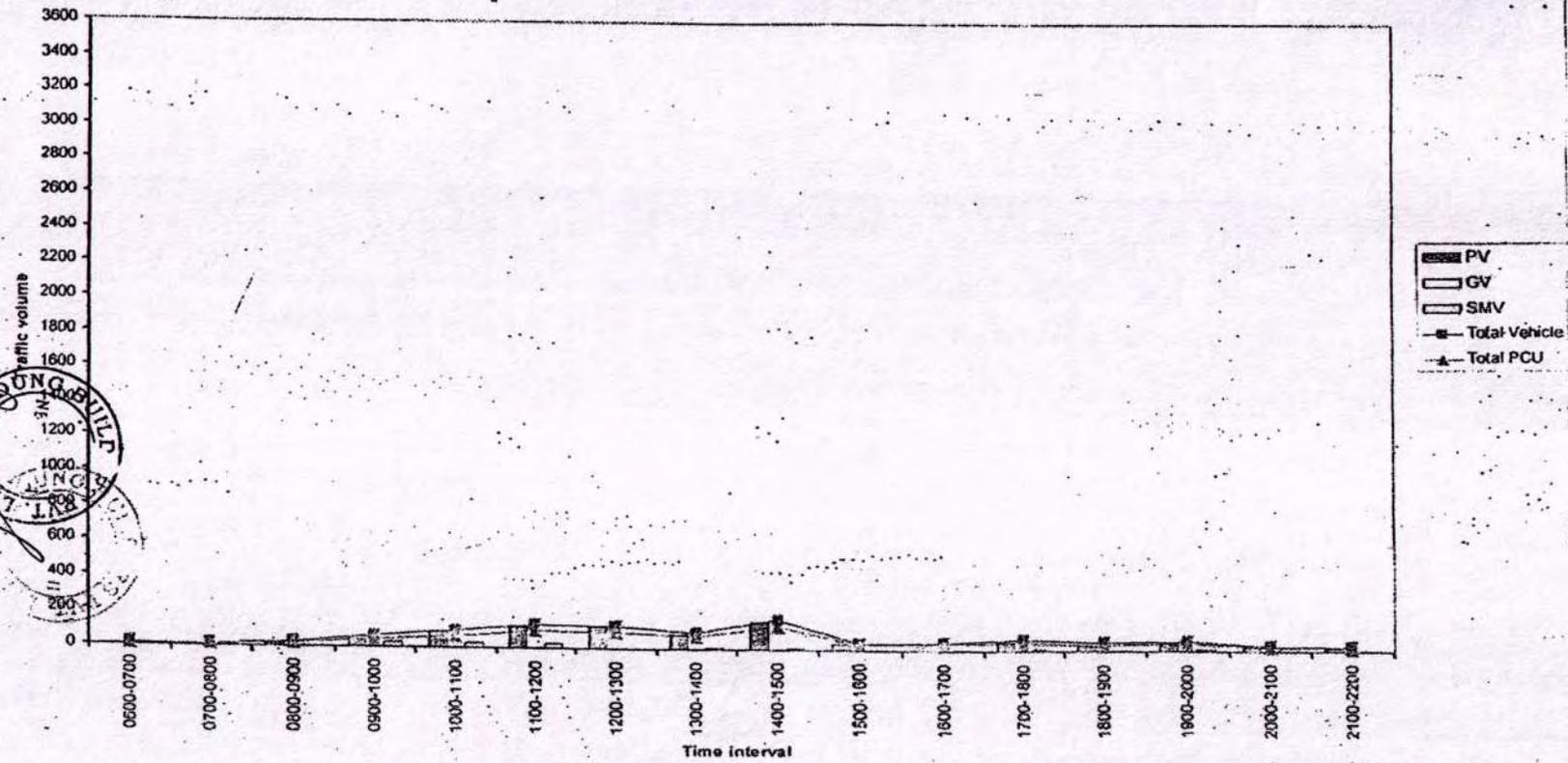
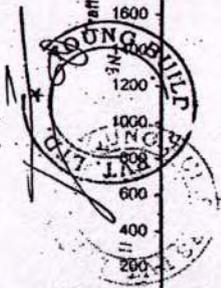


Diagram 4a: Hourly variation traffic volume on Cavalry Lane from DU to Metro Station

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PROJECT
REPORT

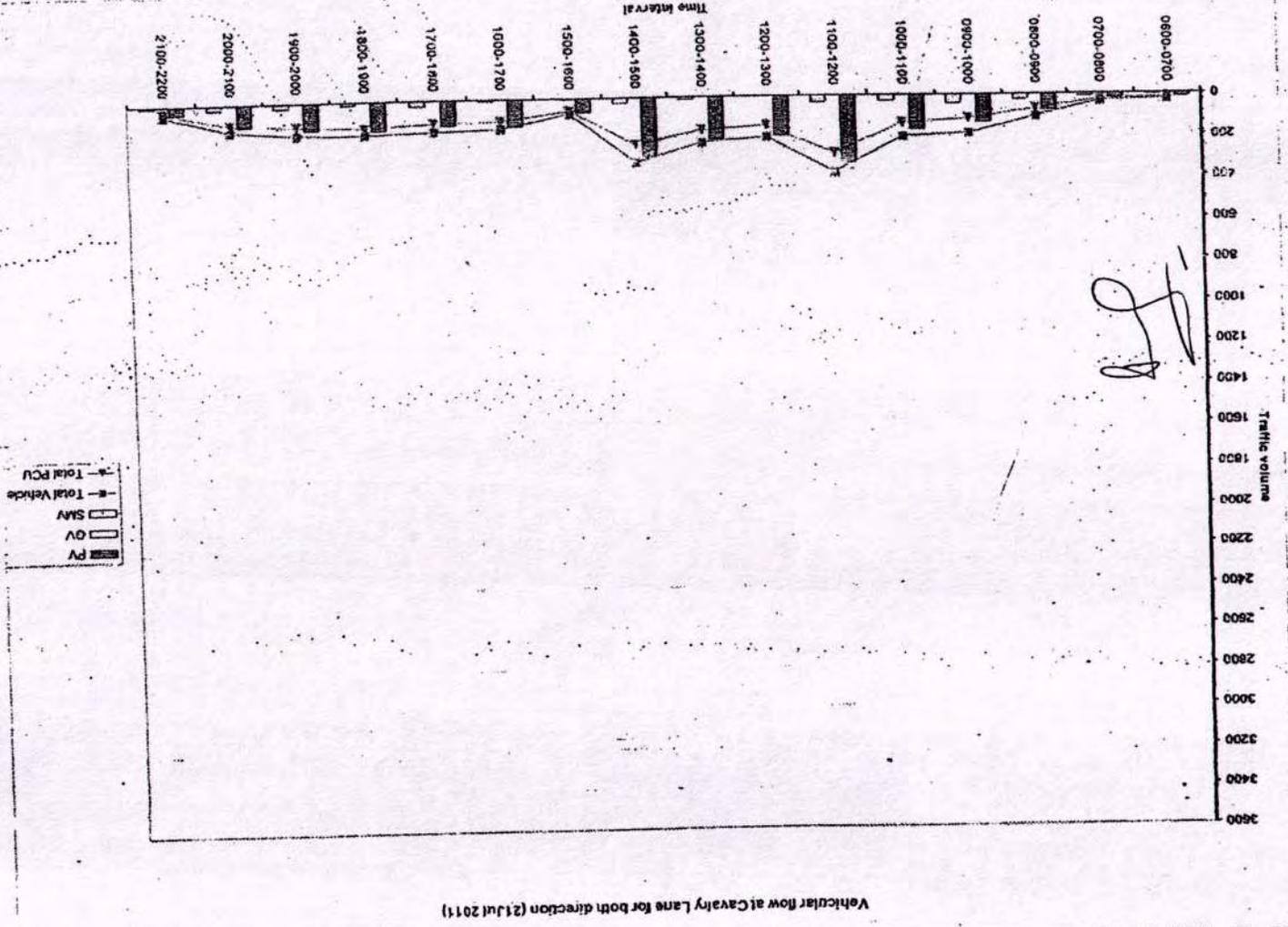


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Diagram 4c: Hourly variation traffic volume on Cavalry Lane for both direction



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UNIVERSITY OF DELHI
दिल्ली विश्वविद्यालय

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ANNEXURE-16

Officer on Special Duty

विशेष कार्य अधिकारी

**Report on the Accessibility Issues Concerning Persons With Disabilities near the
Vishwa Vidyalaya Metro Area**

**Prof. Anil K. Aneja & Dr. Bipin K. Tiwary
Officers on Special Duty, Equal Opportunity Cell**

This report has been prepared consequent upon a number of verbal representations received by the undersigned from persons with disabilities regarding their concerns relating to accessibility issues on Chhatra Marg near the Vishwa Vidyalaya Metro Station.

It may be noted that more than 2000 students with disabilities are studying in various colleges and departments of the University. Nearly 200 faculty members and non-teaching staff with disabilities are also engaged in these institutions. Several of these need to commute to the University by Metro for various purposes. It appears that on an average more than 500 persons with disabilities either reside in or visit the University campus every day.

While in the recent years the University has done substantial work to ensure accessibility for such persons by building ramps, accessible toilets and lifts, the accessibility on the roads around the University premises poses an important challenge in many respects for persons with disabilities. The presence of hawkers, both authorized and unauthorized as well as the presence of a large number of rickshaws and other vehicles, particularly at important points are some of the major problems.

The difficulties caused by the above-mentioned barriers are all the more acute on Chhatra Marg, particularly at the turning leading to Chhatra Marg from the Vishwa Vidyalaya Metro Station. It is believed that on an average, around 5000 vehicles use this road every day. Creating major challenge for persons with disabilities. The presence of a large number of rickshaws on the left side of the road as well as the presence of hawkers on the footpath, create serious mobility barriers for such persons. The enclosed photographs present a visible scenario of the area in reference.

Persons with Disabilities who regularly come to Chhatra Marg from the Vishwa Vidyalaya Metro Station are seriously alarmed and worried on hearing from some quarters that a multi-story building may soon be constructed on Chhatra Marg very near the turning from the Vishwa Vidyalaya Metro Station. Upon enquiry it has been learnt that such a possibility may actually exist.

It is once again stated that even at present, persons with disabilities face serious mobility challenges at the turning from the Vishwa Vidyalaya metro station to Chhatra Marg due to the barriers mentioned above. The construction of a multi-storied complex on the left side of the road very near the turning on the Chhatra Marg from the Vishwa Vidyalaya Metro Station, will make it virtually impossible for persons with

समान अवसर प्रकोष्ठ, कला संकाय अनुशिक्षण भवन, दिल्ली विश्वविद्यालय, दिल्ली-११०००७

A N I L Bipin Tiwary



UNIVERSITY OF DELHI
दिल्ली विश्वविद्यालय

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Officer on Special Duty

विशेष कार्य अधिकारी

disabilities to travel on this road on foot or by wheel chair. This in turn will seriously affect their access to various University institutions and also to the Equal Opportunity Cell which is the main support center for students with disabilities. As the vehicular movement as well as human presence will significantly go up on this road if such a building is constructed, it will create serious concerns for the security and safety for persons with disabilities in general and particularly of women with disabilities and those using wheelchairs.

It may be pointed out here that the very act of Delhi Metro Rail Corporation to lease this land to a private builder for construction, was against the public cause because this land was acquired by DMRC only for constructing the metro and related facilities. Even the Government notification dated 20th January, 2005 had permitted the DMRC to use such land for development purpose and not for commercial purpose by leasing the same for construction. Thus, the proposed construction on Chhatra Marg (near the Metro Station) is against the very letter and spirit of acquisition of land for public purposes. Further, the move in reference, far from promoting public good, has the serious potential of endangering the accessibility, security and safety of persons with disabilities residing and coming to the campus. Such a move to construct a multi-storied complex will also create security hazards for other sections of the University community such as women and senior citizens.

It may be noted that the notification dated 20th January, 2005, permitting the DMRC to use such land for development purposes, also stipulates that permission of the concerned authorities/statutory bodies needs to be taken before undertaking any development. It is pertinent to state that the University of Delhi is a 'concerned statutory body' whose permission has not been taken by DMRC before undertaking the move in reference.

It may be further pointed out that sections 40-46 of the Rights of Persons With Disabilities Act, 2016 enjoin upon all public authorities to ensure complete accessibility for persons with disabilities. In particular, Section 41 (1) (c) a specific in this context and directs the public authorities to ensure "accessible roads to address mobility necessary for persons with disabilities". In view of the above, it is strongly recommended that the University and other competent bodies may initiate and take all possible measures to ensure that the construction of a multi-storied complex in reference on Chhatra Marg near the Vishwa Vidyalaya Metro Station does not take place as such a construction has serious negative consequences for the accessibility, security and safety of persons with disabilities and others accessing the University Campus.

Prof. Anil K. Aneja & Dr. Bipin K. Tiwary
Officers on Special Duty, Equal Opportunity Cell

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Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7

1. Figure 1 & 2 represents E- rikshaws creating obstacles in the mobility.
2. Figure 3 & 4 footpaths being occupied by unauthorised vendors near the proposed construction site.
3. Figure 5 & 6 foodcart and other stalls creating barriers.
4. Figure 7 unauthorised vendors and other obstacles creating hurdles in the barriers free movements near the proposed construction site.

ANNEXURE-17

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ANNEXURE A-21

GROUP HOUSING AT MALL ROAD

TRAFFIC ANALYSIS

Feb, 2018

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Engineering and Planning Consultants
219,220, Somdutt Chambers-II, 9, Bhikaiji Cama Place, New Delhi-110066

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TRAFFIC ANALYSIS FOR PROPOSED GROUP HOUSING AT DU METRO STATION

1. BACKGROUND

The proposed housing project on a plot of two hectares to the south of Vishwavidhyalaya Metro station will accommodate group housing and EWS population. The site, adjacent to Mall Road is accessed from 24 m wide Cavalry Lane in the east. 18 m wide Chhatra Marg is abutting to west of the site. The site is served by a network of grid iron pattern road network as seen in Figure 1. One of the two intersections on Mall Road facilitates right turning movement of vehicular traffic to and from the campus adjacent to the site. Cavalry Lane has left-in and left-out movement at its intersection with Mall Road. As seen in photographs, there are cycle and E-rickshaws parked and operating from the metro station parking to the north-west of the site. Accordingly there are traffic conflicts to be addressed in the western edge of the site.

2. EXISTING TRAFFIC CONDITIONS**CAVALRY LANE:**

According to recent traffic survey conducted in February 2018, traffic volume on Cavalry Lane is 423 pcu during AM peak hour. The ADT is recorded to be 3284 pcu comprising of 1087 two-wheeler, 707 autos, 926 cars and 2 buses on Cavalry Lane. Over a day, 7 good vehicles, 198 cycles, 45 cycle rickshaws and 924 E-Rickshaws have been noted. In the afternoon peak hour (14:00-15:00hrs), the recorded traffic volume is 208 pcu. The annexure-1 give the details of pedestrian and vehicular traffic volumes in tabular and graphic form for easy comprehension. It will be noted that the surrounding roads have adequate capacity to absorb

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traffic generated by the proposed development. Further the placement of access position on Cavalry Lane is not likely to cause any traffic concerns in the context.

CHHATRA MARG:

Similarly traffic survey conducted in February 2018, traffic volume on Chhatra Marg is 1310 pcu during AM peak hour. The ADT is recorded to be 14801 pcu comprising of 4999 two wheeler, 1668 autos, 4092 cars and 19 Buses.

Over a day, 44 good vehicles, 412 cycles, 1217 cycle rickshaws and 4376 E-Rickshaws have been noted. In the afternoon peak hour (14:00-15:00hrs), the recorded traffic volume is 1167 pcu. The annexure 2 give the details of pedestrian and vehicular traffic volumes in tabular and graphic form for easy comprehension.

3. ESTIMATE OF GENERATED TRAFFIC

It is estimated that the housing scheme will generate some 320 pcu of vehicular traffic under a peak period of four to five hour duration. Critical peak hour traffic volume is estimated at 192 pcu egress and 25 pcu/h ingress traffic volume during AM period. The flow pattern will reverse during PM peak period though the duration of PM peak period is generally longer than the AM peak period. It must be stated that considerable proportion of person trips will be made by Metro. Reliance on other modes of transport like cycle rickshaw is not expected to be high as the site offers by virtue of its location, excellent conditions for walking and nearness to the metro station. Cavalry Lane accordingly is envisaged to provide the access to motorized vehicles. On adding incremental traffic to the existing traffic on Cavalry Lane, the aggregate traffic works out to be 640pcu per hour.

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The existing v/c ratio considering local two lane two-way carriageway configuration works out to be 0.56, and the emerging v/c ratio with project estimated to be 0.857 as per IRC 106. This v/c has built in facility of right turn traffic, parked vehicle and frontage access from the road under consideration. With v/c ratio of 0.85, congested conditions are not expected on Cavalry Lane. Further there is likely to be diversion from car to public transport especially to Metro for essential trips and this is likely to reduce the generated vehicular traffic volume from the proposed development. Walking to Metro Station for travel purposes is likely to find favour with the residential population.

4. TRAFFIC SYSTEM

Access System: The approach to the site is to be drawn from Cavalry Lane would as it provides better inflow and outflow options and has the spare traffic carrying capacity and this is a higher hierarchy road.

Circulatory road: Accordingly the access is drawn from Cavalry Lane though option to access from the west is always there as this road also have spare capacity.

Parking: In all 854 ecs of car parking is provided in combination of surface, stilt and basement at two levels. Basement parking egress is from two ramps. There are two separate egress ramps in the proposed configuration. During emergency all four ramps ensure quick evacuation in about 21 min and this traffic will be absorbed by access roads.

Pedestrian movement: Pedestrian and pick up and drop off facilities are provided as part of the circulatory network. Footpath along road provide

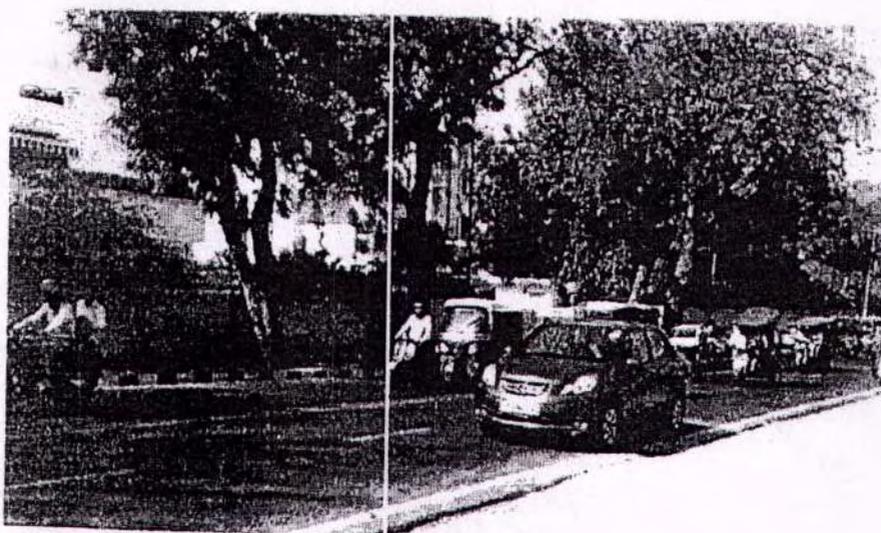
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for pedestrian movement. Figure 5 gives pedestrian and vehicular circulation around and to the site.

4. SUGGESTION

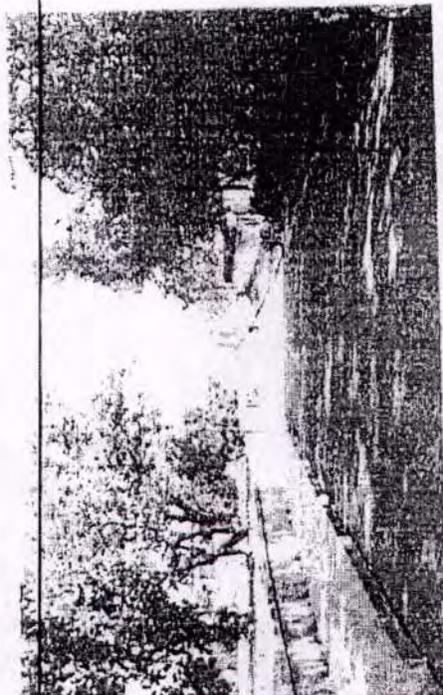
It is suggested that access may be drawn from Cavalry Lane to avoid direct conflict with cycle and E-rickshaws plying on Chhatra Marg, though the Chhatra Marg may also be utilize for access from the west.



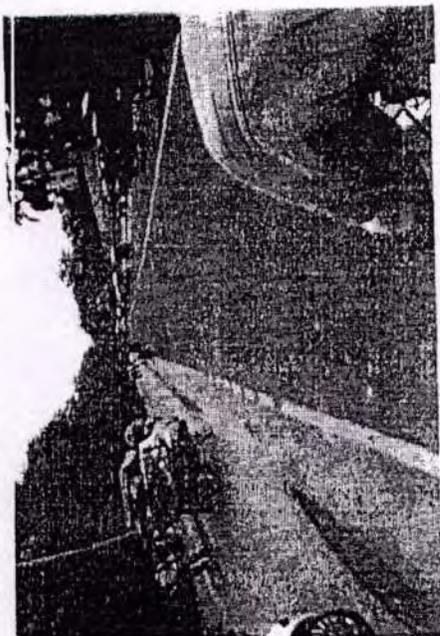
E-RICKSHAW - NEAR DU METRC STATION

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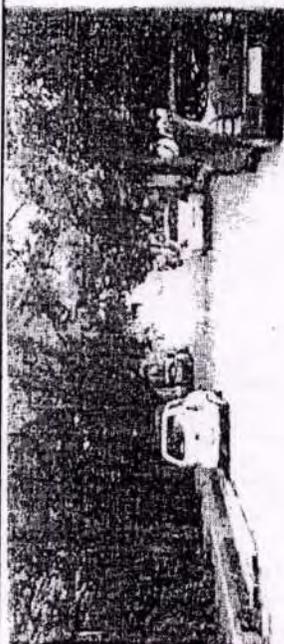


TRAFFIC CONDITION ON CAVALRY

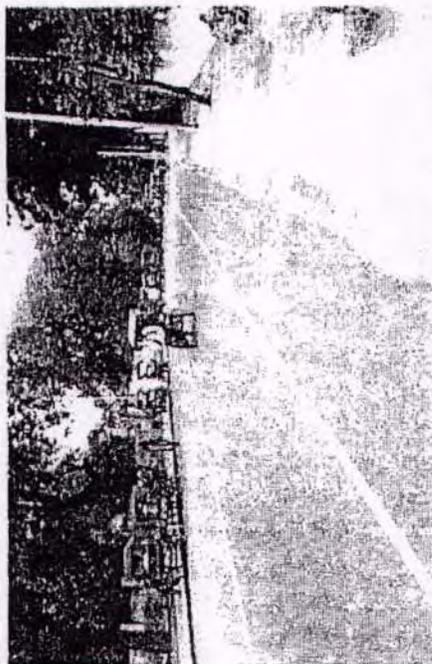


CHHATRA MARG (AFTER UNIVERSITY OPENING)

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VIEW OF CAVALRY LANE NEAR PROJECT SITE



CHHATRA MARG (BEFORE UNIVERSITY OPENING)

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TABLE 1: PEDESTRIAN VOLUME COUNT AT CHATTRA MARG
Pedestrian flow at Chhatra Marg (Hourly volume count on 28-02-2018)

| Time | To Defh Univeersity | To Metro Station | Total |
|--------------|---------------------|------------------|--------------|
| 0600 - 0700 | 70 | 32 | 102 |
| 0700 - 0800 | 406 | 73 | 479 |
| 0800 - 0900 | 1176 | 166 | 1342 |
| 0900 - 1000 | 1990 | 157 | 2147 |
| 1000 - 1100 | 855 | 344 | 1199 |
| 1100 - 1200 | 796 | 430 | 1226 |
| 1200 - 1300 | 1549 | 654 | 2203 |
| 1300 - 1400 | 1540 | 1058 | 2698 |
| 1400 - 1500 | 1315 | 1360 | 2676 |
| 1500 - 1600 | 641 | 1360 | 2001 |
| 1600 - 1700 | 370 | 840 | 1210 |
| 1700 - 1800 | 239 | 515 | 754 |
| 1800 - 1900 | 206 | 665 | 871 |
| 1900 - 2000 | 218 | 355 | 573 |
| 2000 - 2100 | 101 | 170 | 271 |
| 2100 - 2200 | 45 | 48 | 93 |
| Total | 11517 | 8227 | 19744 |

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TABLE 2: DIRECTIONAL TRAFFIC VOLUME COUNT ON CHHATRA MARG

Hourly mid block count of Chhatra Marg (Delhi University to Metro Station - 28/02/2018)

| Time of Survey | Passenger Vehicle | | | | Total Fast Passenger Vehicle | Buses | | Total Buses | Foods Vehicle | | | Total Goods Vehicle | Slow Moving Vehicle | | | Total Moving Vehicle | Total Vehicle PCU's | |
|----------------|-------------------|---------|----------------|-------------|------------------------------|-------|------------------|-------------|---------------|-------|----------------|---------------------|---------------------|----------|--------------|----------------------|---------------------|------|
| | Two Wheeler | | Car/Jeeep/ Van | Taxis/Magic | | Bus | Metro Feeder Bus | | LCV | Truck | Cycle Rickshaw | | Cycle | Rickshaw | E - Rickshaw | | | |
| | Auto | Wheeler | | | | | | | | | | | | | | | | |
| 0600-0700 | 3 | 10 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 28 | 53 | 44 |
| 0700-0800 | 24 | 9 | 30 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 22 | 82 | 148 | 133 |
| 0800-0900 | 71 | 29 | 56 | 0 | 208 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 116 | 166 | 364 | 343 |
| 0900-1000 | 116 | 49 | 108 | 0 | 275 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 123 | 222 | 497 | 454 |
| 1000-1100 | 118 | 49 | 79 | 0 | 246 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 157 | 180 | 437 | 389 |
| 1100-1200 | 144 | 58 | 144 | 3 | 349 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 153 | 207 | 556 | 504 |
| 1200-1300 | 138 | 47 | 130 | 1 | 316 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 181 | 198 | 616 | 460 |
| 1300-1400 | 175 | 56 | 126 | 0 | 357 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 142 | 168 | 526 | 444 |
| 1400-1500 | 166 | 53 | 172 | 4 | 395 | 2 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 164 | 230 | 628 | 568 |
| 1500-1600 | 155 | 63 | 173 | 4 | 395 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 184 | 198 | 593 | 630 |
| 1600-1700 | 184 | 47 | 157 | 1 | 389 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 144 | 171 | 561 | 482 |
| 1700-1800 | 178 | 54 | 148 | 0 | 378 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 98 | 123 | 503 | 417 |
| 1800-1900 | 214 | 65 | 156 | 0 | 435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 151 | 199 | 634 | 528 |
| 1900-2000 | 176 | 64 | 126 | 1 | 367 | 2 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 52 | 109 | 480 | 402 |
| 2000-2100 | 226 | 30 | 219 | 0 | 475 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 103 | 146 | 626 | 618 |
| 2100-2200 | 114 | 10 | 113 | 0 | 237 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 78 | 104 | 342 | 286 |
| Total | 2213 | 696 | 1987 | 14 | 4910 | 7 | 4 | 11 | 9 | 2 | 11 | 9 | 2 | 11 | 2039 | 2531 | 7463 | 6496 |

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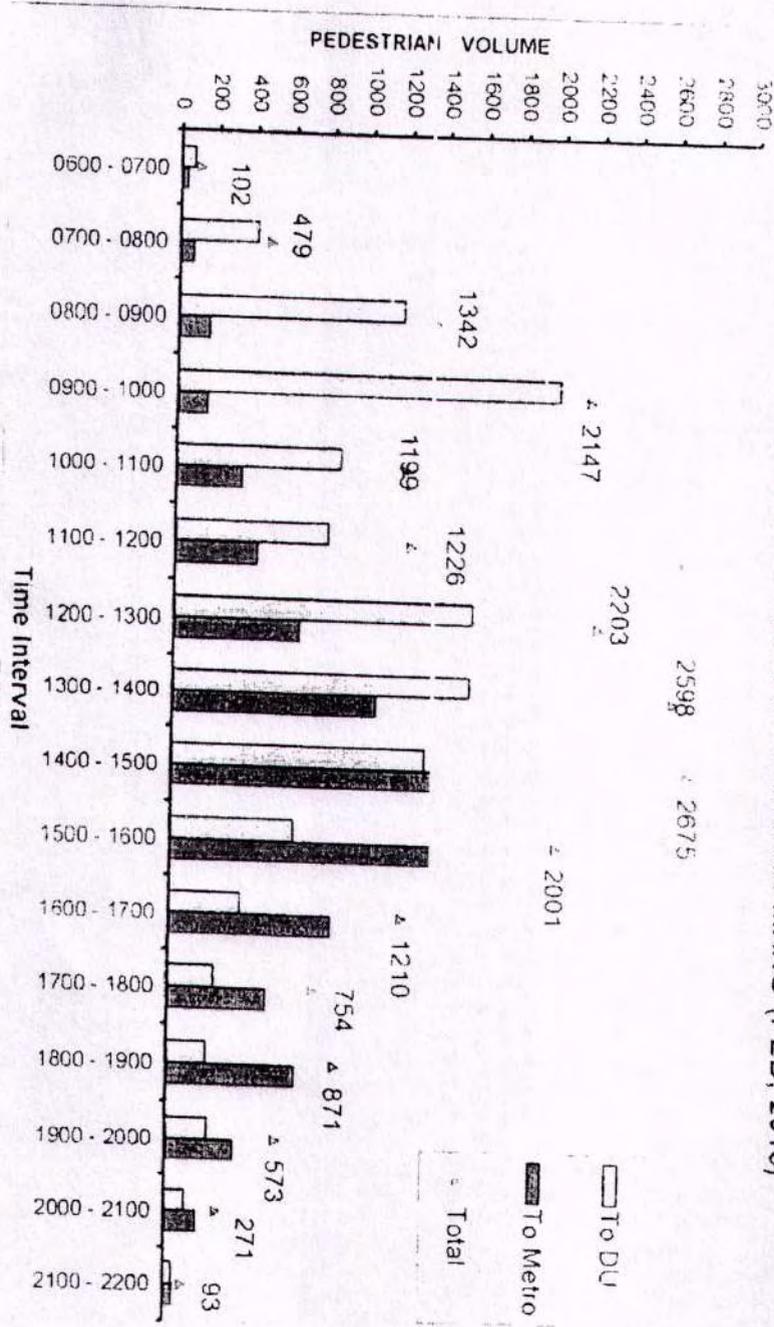
TABLE 4: AVERAGE DAILY TRAFFIC VOLUME COUNT ON CHATTRA MARG BOTH DIRECTION HOURLY CLASSIFIED HOURLY TRAFFIC VOLUME COUNT AT MID-BLOCK

| Time of Survey | Passenger Vehicle | | | Buses | | | Total Buses | Goods Vehicles | | | Slow Moving Vehicle | | | Total Slow Moving Vehicle | | | |
|----------------|-------------------|---------------|-------|-------------------|-----|---------------|-------------|----------------|-------|-----|---------------------|---------------|------|---------------------------|-------|-------|------|
| | Car | Auto Rickshaw | Other | Passenger Vehicle | Bus | Auto Rickshaw | | LCV | Truck | Van | Cycle Rickshaw | Auto Rickshaw | Van | Total | Total | | |
| 0500-0700 | 1 | 0 | 0 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 131 | 37 |
| 0700-0800 | 1 | 0 | 0 | 151 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 154 | 323 | 231 |
| 0800-0900 | 1 | 0 | 0 | 521 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 524 | 1102 | 888 |
| 0900-1000 | 1 | 0 | 0 | 383 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 387 | 1079 | 1310 |
| 1000-1100 | 423 | 0 | 0 | 915 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 921 | 1473 | 1280 |
| 1100-1200 | 0 | 0 | 0 | 818 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 823 | 1223 | 1173 |
| 1200-1300 | 351 | 0 | 0 | 797 | 2 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 803 | 1289 | 1163 |
| 1300-1400 | 0 | 0 | 0 | 719 | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 725 | 1234 | 1093 |
| 1400-1500 | 0 | 0 | 0 | 755 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 760 | 1282 | 1157 |
| 1500-1600 | 0 | 0 | 0 | 538 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 538 | 1151 | 1072 |
| 1600-1700 | 0 | 0 | 0 | 772 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 772 | 1151 | 1072 |
| 1700-1800 | 0 | 0 | 0 | 712 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 712 | 1151 | 1072 |
| 1800-1900 | 0 | 0 | 0 | 799 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 799 | 1151 | 1072 |
| 1900-2000 | 0 | 0 | 0 | 695 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 695 | 1151 | 1072 |
| 2000-2100 | 0 | 0 | 0 | 806 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 806 | 1151 | 1072 |
| 2100-2200 | 0 | 0 | 0 | 406 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 406 | 1151 | 1072 |
| Total | 4355 | 1668 | 4892 | 10713 | 16 | 9 | 19 | 27 | 7 | 44 | 132 | 1257 | 4376 | 6201 | 16844 | 14891 | |

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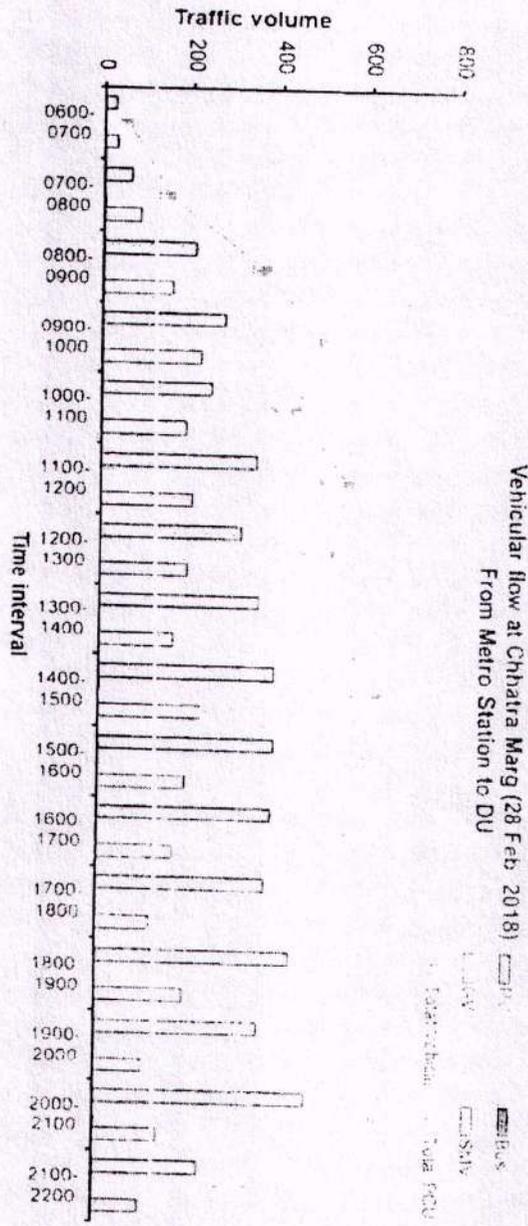
DIAGRAM 1: HOURLY VARIATION OF PEDESTRIAN VOLUME ON CHHATRA MARG
 PEDESTRIAN FLOW AT CHHATRA MARG (FEB, 2018)



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DIAGRAM 2: HOURLY VARIATION OF TRAFFIC VOLUME ON CHHATRA MARG FROM DU TO METRO STATION

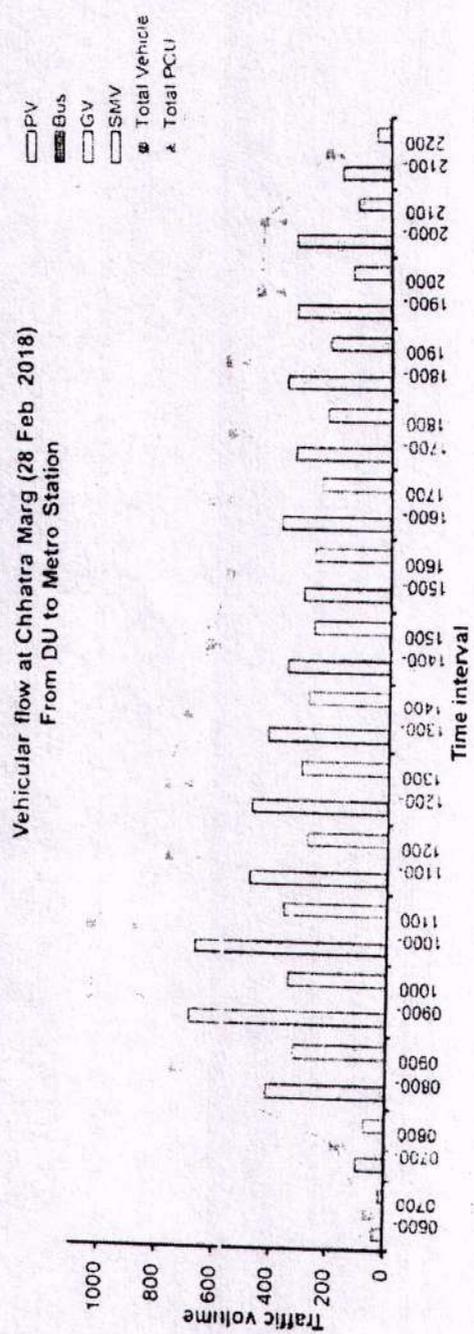


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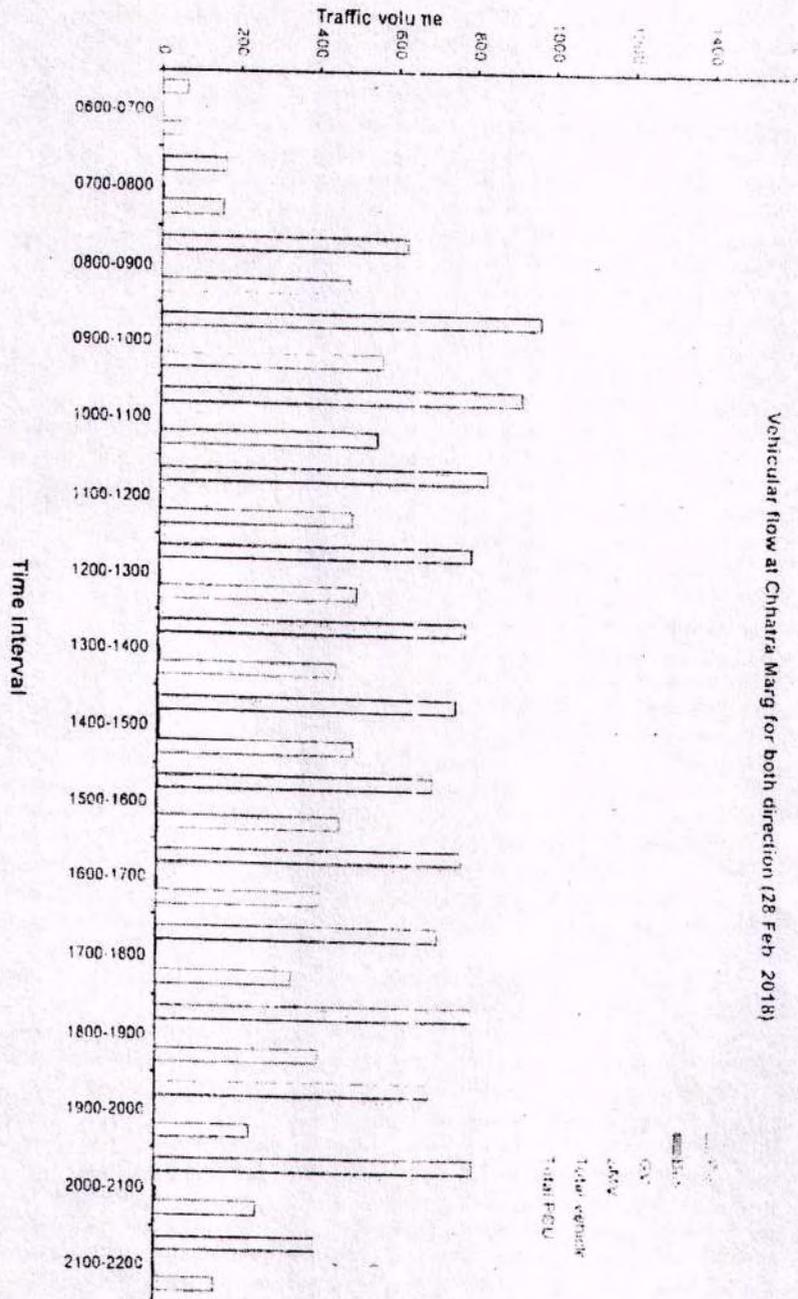
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DIAGRAM 3: HOURLY VARIATION OF TRAFFIC VOLUME ON CHHATRA MARG FROM METRO STATION TO DU



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DIAGRAM 4: HOURLY VARIATION OF TRAFFIC VOLUME ON CHHATRA MARG BOTH DIRECTIONS



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ANNEXURE-2

TABLE 5: PEDESTRIAN VOLUME COUNT AT CAVALRY MARG

| Pedestrian flow at Cavalry Lane (Hourly volume count on 28-02-2018) | | | |
|---|---------------------|------------------|-------|
| Time | To Delhi University | To Metro Station | Total |
| 0600 - 0700 | 18 | 23 | 41 |
| 0700 - 0800 | 71 | 30 | 101 |
| 0800 - 0900 | 111 | 95 | 206 |
| 0900 - 1000 | 147 | 165 | 312 |
| 1000 - 1100 | 85 | 177 | 262 |
| 1100 - 1200 | 216 | 177 | 393 |
| 1200 - 1300 | 68 | 209 | 277 |
| 1300 - 1400 | 87 | 163 | 250 |
| 1400 - 1500 | 117 | 128 | 235 |
| 1500 - 1600 | 75 | 128 | 203 |
| 1600 - 1700 | 76 | 104 | 180 |
| 1700 - 1800 | 73 | 147 | 220 |
| 1800 - 1900 | 74 | 153 | 227 |
| 1900 - 2000 | 70 | 68 | 138 |
| 2000 - 2100 | 59 | 34 | 93 |
| 2100 - 2200 | 23 | 31 | 54 |
| Total | 1370 | 1842 | 3212 |

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TABLE 6. DIRECTIONAL TRAFFIC VOLUME COUNT ON CAVALRY LANE

Northbound Count at Cash, Mary, and Redic Drive, MDOT, 2/22/2013

| Year of Survey | Line | Passenger Vehicle | | | | Total Fast | | | | Slow Vehicle | | | | Severely Impaired | | | | Total Slow | Total Volume | Total PCBS | |
|----------------|------|-------------------|---------|-------|-------|------------|-----|-------|---------|--------------|-----|-------|-------|-------------------|-------|-------|-------|------------|--------------|------------|---|
| | | Auto | Charter | Light | Heavy | Passenger | Bus | Motor | Tractor | Tractor | LCV | Truck | Truck | Truck | Truck | Truck | Truck | | | | |
| 0600-0700 | | 2 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0700-0800 | | 0 | 0 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0800-0900 | | 0 | 0 | 0 | 0 | 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0900-1000 | | 107 | 0 | 0 | 0 | 191 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1000-1100 | | 0 | 0 | 0 | 0 | 155 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1100-1200 | | 0 | 0 | 0 | 0 | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1200-1300 | | 0 | 0 | 0 | 0 | 101 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1300-1400 | | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1400-1500 | | 0 | 0 | 0 | 0 | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1500-1600 | | 0 | 0 | 0 | 0 | 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600-1700 | | 0 | 0 | 0 | 0 | 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1700-1800 | | 0 | 0 | 0 | 0 | 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1800-1900 | | 0 | 0 | 0 | 0 | 99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1900-2000 | | 0 | 0 | 0 | 0 | 133 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2000-2100 | | 0 | 0 | 0 | 0 | 107 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2100-2200 | | 0 | 0 | 0 | 0 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | | 107 | 0 | 0 | 0 | 1473 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

809

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TABLE 7. DIRECTIONAL TRAFFIC VOLUME POINT ON CAVALRY LANE

Hourly mid block count at Cavalry Marg (Dehi University to Mall Road - 28/02/2016)

| Time Int. | Passenger Vehicle | | | | Buses | | | Goods Vehicles | | Slow Moving | | | Total Heavy Vehicle | Total Light Vehicle | | |
|-----------|-------------------|------|----------|--------------|-------------------|-----|------------------|----------------|-----|-------------|---------------|---------------|---------------------|---------------------|-------------------|------|
| | Two Wheeler | Auto | Car/Jeep | Van/Mini Bus | Passenger Vehicle | Bus | Metro Feeder Bus | Total Buses | LCV | Truck | Goods Vehicle | Cycle Ricksha | | | Electric Rickshaw | |
| 0600-0700 | 1 | 1 | 1 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 34 | 30 |
| 0700-0800 | 1 | 1 | 1 | 0 | 38 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 17 | 58 | 47 |
| 0800-0900 | 1 | 1 | 1 | 0 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 95 | 85 |
| 0900-1000 | 32 | 115 | 42 | 0 | 189 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 67 | 74 | 283 | 247 |
| 1000-1100 | 1 | 65 | 5 | 0 | 102 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 67 | 176 | 183 |
| 1100-1200 | 1 | 50 | 1 | 0 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 81 | 75 |
| 1200-1300 | 22 | 1 | 1 | 0 | 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 76 | 166 | 152 |
| 1300-1400 | 15 | 21 | 14 | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 76 | 68 |
| 1400-1500 | 16 | 57 | 1 | 0 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 78 | 65 |
| 1500-1600 | 27 | 44 | 26 | 0 | 67 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 46 | 114 | 102 |
| 1600-1700 | 1 | 1 | 1 | 0 | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 68 | 128 | 112 |
| 1700-1800 | 18 | 19 | 20 | 0 | 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 142 | 124 |
| 1800-1900 | 69 | 37 | 43 | 0 | 149 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 44 | 45 | 184 | 159 |
| 1900-2000 | 31 | 11 | 12 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 81 | 64 |
| 2000-2100 | 45 | 9 | 46 | 0 | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 22 | 26 | 124 | 104 |
| 2100-2200 | 22 | 12 | 15 | 0 | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 8 | 61 | 52 |
| Total | 413 | 488 | 349 | 0 | 1241 | 0 | 0 | 0 | 3 | 0 | 31 | 22 | 583 | 616 | 1860 | 1651 |

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304

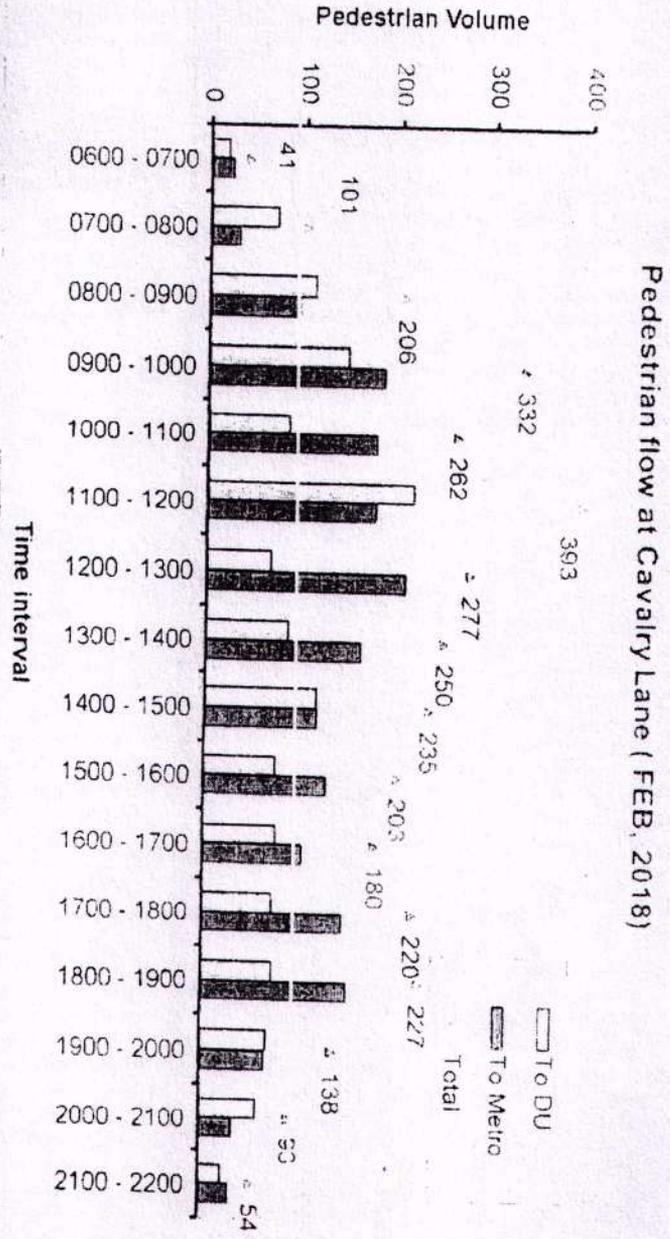
TABLE 8 AVERAGE DAILY TRAFFIC VOLUME COUNT FOR BOTH SIDES ON CAVALRY LANE

Hourly mid block count at Cavalry Marg (Delhi University to Mall Road - 2802/20-8) BOTH DIRECTIONS

| Time of Survey | Two Wheeler | Auto | Passenger Vehicle | | Fast Passenger Vehicle | Buses | Tractor | Goods Vehicles | | Total Goods Vehicle | Cycle Rickshaw | E-Rickshaw | Total Slow Moving Vehicle | Total Stop Moving Vehicle | Total Vehicle | Total PCU's |
|----------------|-------------|------|-------------------|-----|------------------------|-------|---------|----------------|-------|---------------------|----------------|------------|---------------------------|---------------------------|---------------|-------------|
| | | | Car | Van | | | | Truck | Truck | | | | | | | |
| 0700-0800 | 20 | 3 | 14 | 2 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 62 | 51 | |
| 0800-0900 | 52 | 32 | 35 | 0 | 146 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 54 | 77 | |
| 0900-1000 | 139 | 146 | 97 | 0 | 382 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 191 | 157 | |
| 1000-1100 | 75 | 52 | 94 | 0 | 227 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127 | 509 | 423 | |
| 1100-1200 | 58 | 43 | 53 | 0 | 154 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 215 | 185 | |
| 1200-1300 | 75 | 52 | 59 | 0 | 189 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 138 | 329 | 294 | |
| 1300-1400 | 65 | 42 | 46 | 0 | 153 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 94 | 248 | 212 | |
| 1400-1500 | 63 | 40 | 39 | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 97 | 246 | 208 | |
| 1500-1600 | 49 | 43 | 64 | 0 | 156 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 101 | 258 | 224 | |
| 1600-1700 | 56 | 25 | 35 | 0 | 116 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 228 | 191 | |
| 1700-1800 | 79 | 28 | 84 | 0 | 189 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 91 | 280 | 240 | |
| 1800-1900 | 133 | 46 | 103 | 0 | 282 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 67 | 380 | 300 | |
| 1900-2000 | 95 | 25 | 80 | 0 | 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 197 | 154 | |
| 2000-2100 | 65 | 7 | 86 | 0 | 158 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 189 | 159 | |
| 2100-2200 | 33 | 12 | 45 | 0 | 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 101 | 87 | |
| Total | 1087 | 707 | 926 | 0 | 2720 | 1 | 2 | 7 | 0 | 0 | 0 | 0 | 1169 | 3698 | 3284 | |

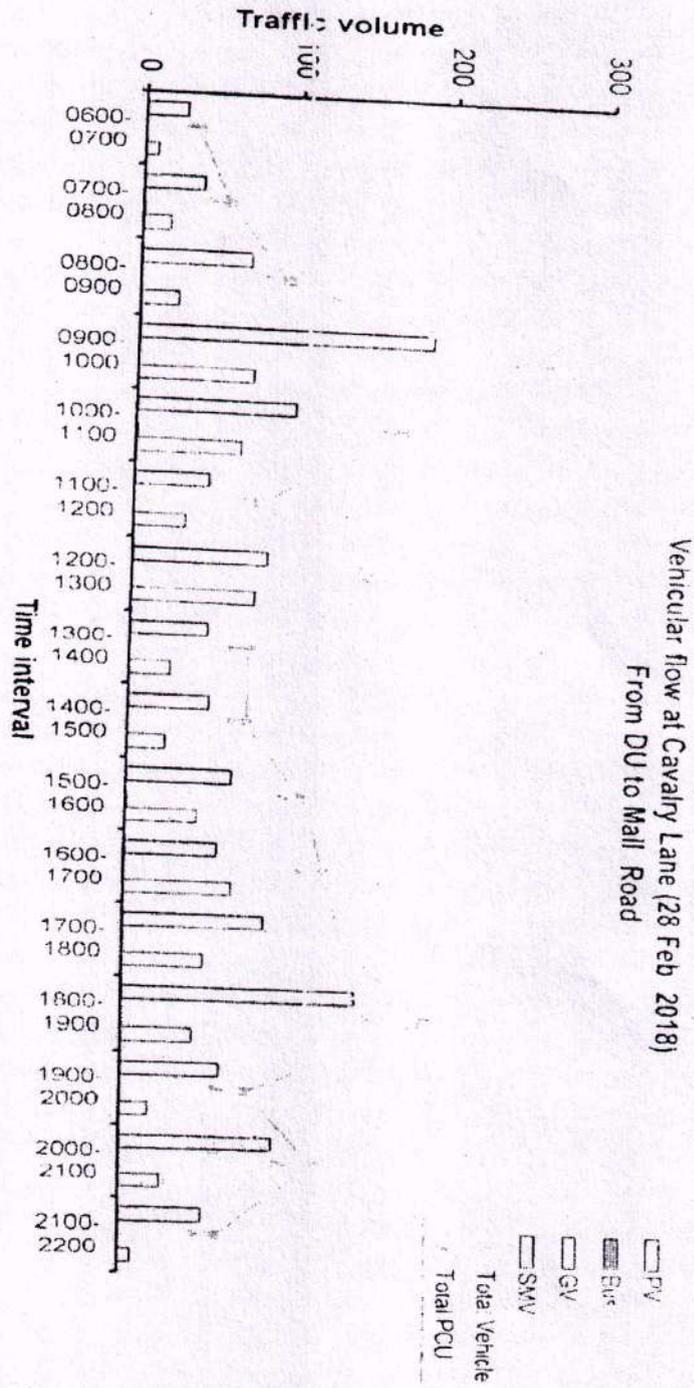
305

DIAGRAM 5: HOURLY VARIATION OF PEDESTRIAN VOLUME COUNT CAVALRY LANE



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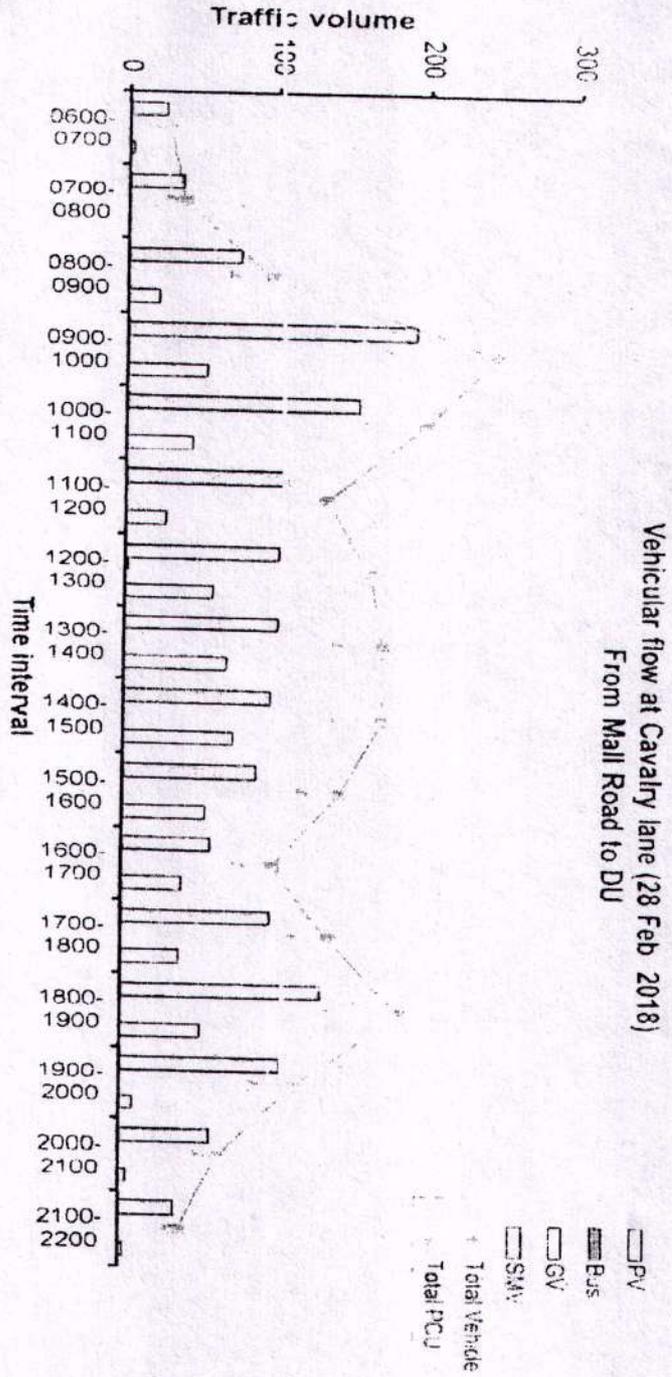
DIAGRAM 6: HOURLY VARIATION TRAFFIC VOLUME ON CAVALRY LANE FROM DU TO MALL ROAD



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206

307

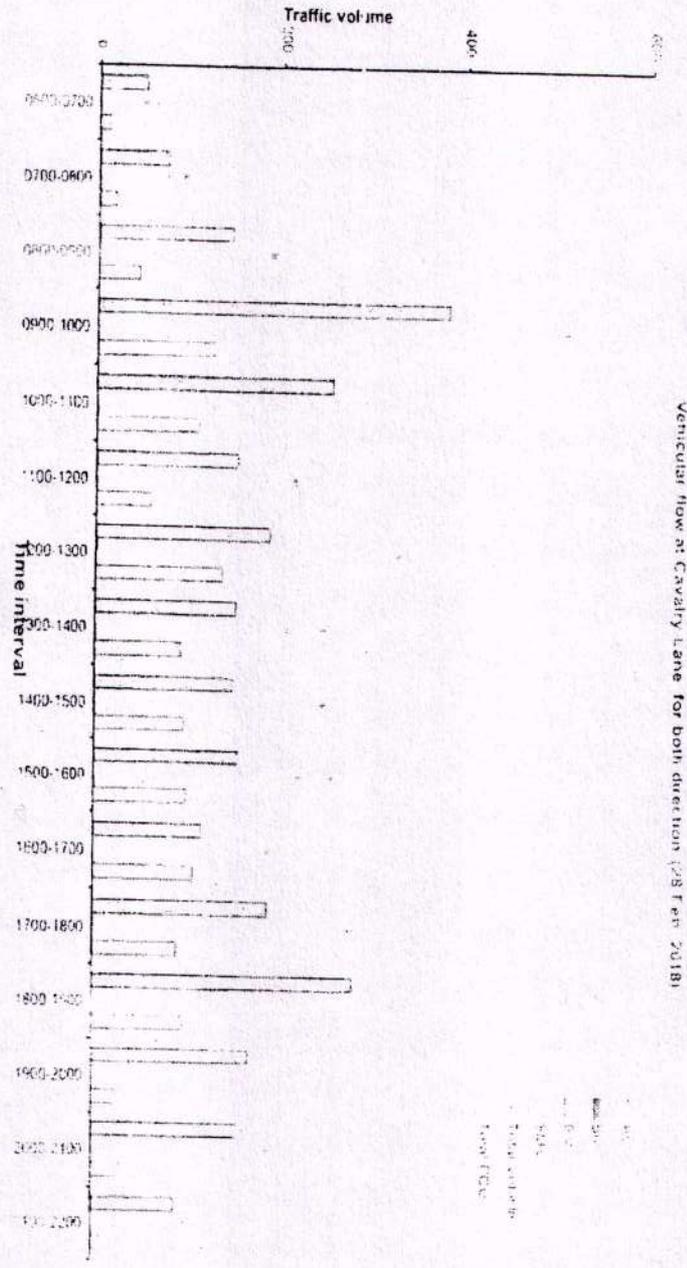
DIAGRAM 7: HOURLY VARIATION TRAFFIC VOLUME ON CAVAIRY LANE MALL ROAD TO DU



307

308

DIAGRAM 8: HOURLY VARIATION TRAFFIC VOLUME ON CAVALRY LANE FOR BOTH DIRECTIONS.



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COMPARATIVE DATA

HOURLY TRAFFIC DATA AT CAVALRY MARG (MALL ROAD TO DELHI UNIVERSITY 2011 VS 2018)

| Time of Survey | Total Fast Passenger Vehicle | | Total Buses | | Total Goods Vehicle | | Total Slow Moving Vehicle | | Total Vehicle | | Total PCU | |
|----------------|------------------------------|-------------|-------------|----------|---------------------|----------|---------------------------|------------|---------------|-------------|------------|-------------|
| | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 |
| | 0600-0700 | 5 | 25 | 0 | 0 | 0 | 0 | 7 | 3 | 15 | 28 | 10 |
| 0700-0800 | 13 | 37 | 0 | 0 | 0 | 0 | 3 | 1 | 16 | 38 | 12 | 30 |
| 0800-0900 | 24 | 75 | 0 | 0 | 1 | 0 | 0 | 21 | 25 | 96 | 21 | 73 |
| 0900-1000 | 42 | 193 | 0 | 0 | 0 | 0 | 20 | 53 | 62 | 246 | 43 | 177 |
| 1000-1100 | 71 | 156 | 0 | 0 | 0 | 0 | 5 | 44 | 96 | 199 | 64 | 164 |
| 1100-1200 | 128 | 106 | 0 | 0 | 1 | 1 | 7 | 27 | 136 | 134 | 96 | 110 |
| 1200-1300 | 126 | 103 | 0 | 2 | 0 | 0 | 2 | 59 | 128 | 164 | 93 | 140 |
| 1300-1400 | 87 | 103 | 0 | 0 | 0 | 1 | 2 | 68 | 69 | 172 | 67 | 144 |
| 1400-1500 | 157 | 98 | 0 | 0 | 0 | 1 | 13 | 73 | 170 | 172 | 126 | 136 |
| 1500-1600 | 33 | 86 | 0 | 0 | 1 | 0 | 1 | 55 | 35 | 144 | 29 | 122 |
| 1600-1700 | 42 | 59 | 0 | 0 | 0 | 1 | 1 | 40 | 43 | 100 | 33 | 79 |
| 1700-1800 | 46 | 99 | 0 | 0 | 0 | 0 | 15 | 39 | 61 | 138 | 42 | 116 |
| 1800-1900 | 37 | 133 | 0 | 0 | 1 | 0 | 9 | 53 | 47 | 180 | 37 | 141 |
| 1900-2000 | 49 | 107 | 0 | 0 | 0 | 0 | 8 | 9 | 57 | 116 | 45 | 91 |
| 2000-2100 | 22 | 60 | 0 | 0 | 0 | 0 | 3 | 5 | 25 | 65 | 20 | 55 |
| 2100-2200 | 22 | 37 | 0 | 0 | 0 | 0 | 4 | 3 | 26 | 40 | 17 | 36 |
| TOTAL | 927 | 1479 | 0 | 2 | 4 | 4 | 100 | 553 | 1031 | 2038 | 754 | 1634 |

HOURLY TRAFFIC DATA AT CAVALRY MARG (DELHI UNIVERSITY TO MALL ROAD) 2011 VS 2018

| Time of Survey | Total Fast Passenger Vehicle | | Total Buses | | Total Goods Vehicle | | Total Slow Moving Vehicle | | Total Vehicle | | Total PCU | |
|----------------|------------------------------|-------------|-------------|----------|---------------------|----------|---------------------------|------------|---------------|-------------|-------------|-------------|
| | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 |
| | 0600-0700 | 11 | 26 | 0 | 0 | 0 | 0 | 3 | 8 | 14 | 34 | 10 |
| 0700-0800 | 11 | 38 | 0 | 0 | 0 | 1 | 11 | 17 | 22 | 56 | 14 | 47 |
| 0800-0900 | 57 | 71 | 0 | 0 | 0 | 0 | 29 | 24 | 86 | 95 | 53 | 85 |
| 0900-1000 | 98 | 189 | 0 | 0 | 0 | 0 | 28 | 74 | 126 | 263 | 76 | 247 |
| 1000-1100 | 81 | 102 | 0 | 0 | 0 | 1 | 27 | 67 | 108 | 170 | 73 | 163 |
| 1100-1200 | 203 | 48 | 0 | 0 | 0 | 0 | 31 | 33 | 234 | 81 | 183 | 75 |
| 1200-1300 | 66 | 86 | 0 | 0 | 0 | 0 | 3 | 79 | 69 | 165 | 52 | 154 |
| 1300-1400 | 120 | 50 | 0 | 0 | 0 | 0 | 11 | 26 | 131 | 76 | 92 | 68 |
| 1400-1500 | 127 | 52 | 0 | 0 | 0 | 0 | 16 | 24 | 143 | 76 | 100 | 69 |
| 1500-1600 | 34 | 67 | 0 | 0 | 3 | 1 | 1 | 46 | 38 | 114 | 32 | 102 |
| 1600-1700 | 93 | 59 | 0 | 0 | 0 | 0 | 7 | 69 | 100 | 128 | 72 | 112 |
| 1700-1800 | 80 | 90 | 0 | 0 | 0 | 0 | 11 | 52 | 91 | 142 | 71 | 124 |
| 1800-1900 | 107 | 149 | 0 | 0 | 1 | 0 | 7 | 45 | 115 | 194 | 92 | 159 |
| 1900-2000 | 82 | 63 | 0 | 0 | 0 | 0 | 16 | 18 | 98 | 81 | 73 | 64 |
| 2000-2100 | 89 | 98 | 0 | 0 | 0 | 0 | 18 | 26 | 107 | 124 | 80 | 104 |
| 2100-2200 | 20 | 53 | 0 | 0 | 0 | 0 | 4 | 8 | 24 | 61 | 21 | 52 |
| TOTAL | 1279 | 1241 | 0 | 0 | 4 | 3 | 223 | 616 | 1506 | 1860 | 1090 | 1651 |

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CAVALARY LANE BOTH DIRECTIONS 2011 vs 2018

| Time of Survey | Total Fast Passenger Vehicle | | Total Buses | | Total Goods Vehicle | | Total Slow Moving Vehicle | | Total | | | |
|----------------|------------------------------|-------------|-------------|----------|---------------------|----------|---------------------------|-------------|-------------|-------------|-------------|-------------|
| | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | Vehicle | | PCU | |
| 0600-0700 | 19 | 51 | 0 | 0 | 0 | 0 | 10 | 11 | 29 | 62 | 20 | 51 |
| 0700-0800 | 24 | 75 | 0 | 0 | 0 | 1 | 14 | 18 | 38 | 94 | 26 | 77 |
| 0800-0900 | 81 | 146 | 0 | 0 | 1 | 0 | 29 | 45 | 111 | 191 | 73 | 157 |
| 0900-1000 | 140 | 382 | 0 | 0 | 0 | 0 | 48 | 127 | 188 | 509 | 119 | 423 |
| 1000-1100 | 172 | 257 | 0 | 0 | 0 | 1 | 32 | 111 | 204 | 369 | 137 | 327 |
| 1100-1200 | 331 | 154 | 0 | 0 | 1 | 1 | 38 | 60 | 370 | 215 | 281 | 185 |
| 1200-1300 | 192 | 189 | 0 | 2 | 0 | 0 | 5 | 138 | 197 | 329 | 145 | 294 |
| 1300-1400 | 207 | 153 | 0 | 0 | 0 | 1 | 13 | 94 | 220 | 248 | 159 | 212 |
| 1400-1500 | 284 | 150 | 0 | 0 | 0 | 1 | 29 | 97 | 313 | 248 | 226 | 208 |
| 1500-1600 | 67 | 156 | 0 | 0 | 4 | 1 | 2 | 101 | 73 | 258 | 60 | 224 |
| 1600-1700 | 135 | 118 | 0 | 0 | 0 | 1 | 8 | 109 | 143 | 228 | 105 | 191 |
| 1700-1800 | 126 | 189 | 0 | 0 | 0 | 0 | 26 | 91 | 152 | 280 | 113 | 240 |
| 1800-1900 | 144 | 262 | 0 | 0 | 2 | 0 | 16 | 98 | 162 | 380 | 129 | 300 |
| 1900-2000 | 131 | 170 | 0 | 0 | 0 | 0 | 24 | 27 | 155 | 197 | 117 | 154 |
| 2000-2100 | 111 | 158 | 0 | 0 | 0 | 0 | 21 | 31 | 132 | 189 | 100 | 159 |
| 2100-2200 | 42 | 90 | 0 | 0 | 0 | 0 | 8 | 11 | 50 | 101 | 38 | 87 |
| TOTAL | 2206 | 2720 | 0 | 2 | 8 | 7 | 323 | 1169 | 2537 | 3898 | 1844 | 3284 |

310

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~~500~~

| HOURLY TRAFFIC DATA AT CHHATRA MARG (DELHI UNIVERSITY TO METRO STATION) 2011 VS 2018 | | | | | | | | | | | | |
|---|------------------------------|-------------|-------------|-----------|---------------------|-----------|---------------------------|-------------|---------------|-------------|--------------|-------------|
| Time of Survey | Total Fast Passenger Vehicle | | Total Buses | | Total Goods Vehicle | | Total Slow Moving Vehicle | | Total Vehicle | | TOTAL PCU | |
| | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 |
| 0600-0700 | 130 | 25 | 4 | 0 | 0 | 0 | 71 | 28 | 205 | 53 | 200 | 44 |
| 0700-0800 | 126 | 63 | 1 | 0 | 1 | 3 | 121 | 82 | 249 | 148 | 262 | 133 |
| 0800-0900 | 283 | 202 | 2 | 0 | 4 | 0 | 537 | 156 | 626 | 364 | 1030 | 343 |
| 0900-1000 | 292 | 275 | 2 | 0 | 0 | 0 | 727 | 222 | 1021 | 497 | 1346 | 454 |
| 1000-1100 | 263 | 246 | 0 | 1 | 3 | 0 | 465 | 190 | 731 | 437 | 927 | 389 |
| 1100-1200 | 297 | 349 | 0 | 0 | 1 | 0 | 616 | 207 | 914 | 556 | 1156 | 504 |
| 1200-1300 | 271 | 316 | 0 | 2 | 1 | 0 | 465 | 198 | 737 | 516 | 861 | 460 |
| 1300-1400 | 453 | 357 | 5 | 0 | 0 | 1 | 782 | 168 | 1240 | 526 | 1520 | 444 |
| 1400-1500 | 341 | 395 | 9 | 3 | 0 | 0 | 902 | 230 | 1252 | 628 | 1637 | 563 |
| 1500-1600 | 338 | 395 | 0 | 0 | 3 | 0 | 475 | 198 | 816 | 593 | 959 | 530 |
| 1600-1700 | 298 | 389 | 0 | 1 | 1 | 0 | 590 | 171 | 889 | 561 | 1075 | 482 |
| 1700-1800 | 347 | 378 | 1 | 2 | 2 | 0 | 286 | 123 | 636 | 503 | 686 | 417 |
| 1800-1900 | 253 | 435 | 0 | 0 | 0 | 0 | 237 | 199 | 490 | 634 | 487 | 528 |
| 1900-2000 | 349 | 367 | 1 | 2 | 0 | 2 | 327 | 109 | 677 | 480 | 680 | 402 |
| 2000-2100 | 338 | 475 | 0 | 0 | 0 | 4 | 333 | 146 | 671 | 625 | 619 | 518 |
| 2100-2200 | 139 | 237 | 0 | 0 | 0 | 1 | 77 | 104 | 216 | 342 | 208 | 286 |
| TOTAL | 4518 | 4910 | 25 | 11 | 16 | 11 | 7011 | 2531 | 11570 | 7463 | 13650 | 6496 |

| HOURLY TRAFFIC DATA AT CHHATRA MARG (METRO STATION TO DELHI UNIVERSITY) 2011 VS 2018 | | | | | | | | | | | | |
|---|------------------------------|-------------|-------------|----------|---------------------|-----------|---------------------------|-------------|---------------|-------------|--------------|-------------|
| Time of Survey | Total Fast Passenger Vehicle | | Total Buses | | Total Goods Vehicle | | Total Slow Moving Vehicle | | Total Vehicle | | TOTAL PCU | |
| | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 |
| 0600-0700 | 98 | 39 | 2 | 0 | 0 | 0 | 59 | 19 | 159 | 58 | 125 | 44 |
| 0700-0800 | 201 | 99 | 3 | 0 | 5 | 1 | 150 | 73 | 359 | 173 | 360 | 152 |
| 0800-0900 | 369 | 416 | 5 | 0 | 1 | 1 | 1169 | 321 | 1544 | 738 | 1938 | 645 |
| 0900-1000 | 454 | 688 | 11 | 1 | 1 | 2 | 1287 | 341 | 1753 | 1032 | 2154 | 856 |
| 1000-1100 | 429 | 671 | 5 | 1 | 3 | 3 | 1024 | 361 | 1461 | 1036 | 1829 | 891 |
| 1100-1200 | 306 | 481 | 5 | 0 | 1 | 3 | 407 | 281 | 719 | 765 | 819 | 669 |
| 1200-1300 | 196 | 476 | 3 | 0 | 0 | 4 | 491 | 303 | 692 | 783 | 855 | 704 |
| 1300-1400 | 229 | 422 | 4 | 0 | 0 | 4 | 468 | 282 | 701 | 708 | 868 | 649 |
| 1400-1500 | 252 | 360 | 12 | 3 | 0 | 6 | 375 | 265 | 639 | 634 | 770 | 609 |
| 1500-1600 | 246 | 303 | 4 | 0 | 1 | 0 | 204 | 265 | 455 | 568 | 487 | 543 |
| 1600-1700 | 199 | 383 | 3 | 0 | 0 | 4 | 133 | 242 | 335 | 629 | 363 | 576 |
| 1700-1800 | 247 | 334 | 4 | 2 | 0 | 1 | 211 | 220 | 462 | 557 | 500 | 510 |
| 1800-1900 | 190 | 364 | 3 | 0 | 0 | 1 | 167 | 211 | 360 | 576 | 394 | 515 |
| 1900-2000 | 240 | 328 | 2 | 1 | 0 | 0 | 204 | 130 | 446 | 459 | 466 | 389 |
| 2000-2100 | 175 | 330 | 0 | 0 | 0 | 2 | 160 | 112 | 335 | 444 | 357 | 385 |
| 2100-2200 | 107 | 169 | 2 | 0 | 0 | 1 | 92 | 48 | 201 | 218 | 206 | 181 |
| TOTAL | 3940 | 5863 | 68 | 8 | 12 | 33 | 6601 | 3474 | 10621 | 9378 | 12516 | 8305 |

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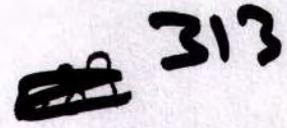
312

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CHHATRA MARG BOTH DIRECTIONS 2011 vs 2018

| Time of Survey | Total Fast Passenger Vehicle | | Total Buses | | Total Goods Vehicle | | Total Slow Moving Vehicle | | Total Vehicle | | TOTAL PCU | |
|----------------|------------------------------|--------------|-------------|-----------|---------------------|-----------|---------------------------|-------------|---------------|--------------|--------------|--------------|
| | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 |
| 0600-0700 | 228 | 64 | 5 | 0 | 0 | 0 | 130 | 47 | 364 | 111 | 324 | 87 |
| 0700-0800 | 327 | 162 | 4 | 0 | 0 | 4 | 271 | 155 | 508 | 321 | 621 | 285 |
| 0800-0900 | 612 | 624 | 7 | 0 | 0 | 1 | 1706 | 477 | 2370 | 1102 | 2968 | 958 |
| 0900-1000 | 748 | 963 | 13 | 1 | 0 | 2 | 2014 | 563 | 2774 | 1529 | 3530 | 1310 |
| 1000-1100 | 692 | 917 | 5 | 2 | 0 | 3 | 1489 | 551 | 2192 | 1473 | 2755 | 1280 |
| 1100-1200 | 603 | 830 | 5 | 0 | 0 | 3 | 1023 | 488 | 1633 | 1321 | 1975 | 1173 |
| 1200-1300 | 469 | 792 | 3 | 2 | 1 | 4 | 956 | 501 | 1429 | 1299 | 1716 | 1183 |
| 1300-1400 | 662 | 779 | 9 | 0 | 0 | 5 | 1250 | 450 | 1941 | 1234 | 2387 | 1093 |
| 1400-1500 | 593 | 755 | 21 | 6 | 0 | 6 | 1277 | 495 | 1891 | 1262 | 2407 | 1167 |
| 1500-1600 | 584 | 698 | 4 | 0 | 4 | 0 | 679 | 463 | 1271 | 1161 | 1446 | 1072 |
| 1600-1700 | 497 | 772 | 3 | 1 | 1 | 4 | 723 | 413 | 1224 | 1190 | 1438 | 1057 |
| 1700-1800 | 594 | 712 | 5 | 4 | 2 | 1 | 497 | 343 | 1098 | 1060 | 1186 | 926 |
| 1800-1900 | 443 | 799 | 3 | 0 | 0 | 1 | 404 | 410 | 850 | 1210 | 881 | 1043 |
| 1900-2000 | 589 | 695 | 3 | 3 | 0 | 2 | 531 | 239 | 1123 | 939 | 1146 | 790 |
| 2000-2100 | 513 | 805 | 0 | 0 | 0 | 6 | 493 | 258 | 1006 | 1069 | 976 | 903 |
| 2100-2200 | 246 | 406 | 2 | 0 | 0 | 2 | 169 | 152 | 417 | 560 | 414 | 466 |
| TOTAL | 8458 | 10773 | 93 | 19 | 28 | 44 | 13612 | 6005 | 22191 | 16841 | 28185 | 14801 |

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PEDESTRIAN FLOW AT CAVALRY LANE (HOURLY VOLUME COUNT 2011 VS 2018)

| TIME | TO DELHI UNIVERSITY | | TO METRO STATION | | TOTAL | |
|--------------|---------------------|-------------|------------------|-------------|-------------|-------------|
| | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 |
| 0600 - 0700 | 16 | 8 | 19 | 23 | 35 | 41 |
| 0700 - 0800 | 64 | 71 | 25 | 30 | 89 | 101 |
| 0800 - 0900 | 97 | 111 | 84 | 95 | 181 | 206 |
| 0900 - 1000 | 132 | 147 | 165 | 185 | 297 | 332 |
| 1000 - 1100 | 76 | 85 | 158 | 177 | 234 | 262 |
| 1100 - 1200 | 181 | 216 | 160 | 177 | 341 | 393 |
| 1200 - 1300 | 62 | 68 | 189 | 209 | 251 | 277 |
| 1300 - 1400 | 77 | 87 | 145 | 163 | 222 | 250 |
| 1400 - 1500 | 103 | 117 | 107 | 118 | 210 | 235 |
| 1500 - 1600 | 67 | 75 | 114 | 128 | 181 | 203 |
| 1600 - 1700 | 67 | 76 | 94 | 104 | 161 | 180 |
| 1700 - 1800 | 65 | 73 | 132 | 147 | 197 | 220 |
| 1800 - 1900 | 67 | 74 | 137 | 153 | 204 | 227 |
| 1900 - 2000 | 63 | 70 | 60 | 68 | 123 | 138 |
| 2000 - 2100 | 53 | 59 | 29 | 34 | 82 | 93 |
| 2100 - 2200 | 19 | 23 | 27 | 31 | 46 | 54 |
| TOTAL | 1209 | 1370 | 1645 | 1842 | 2854 | 3212 |

PEDESTRIAN FLOW AT CHHATRA MARG (HOURLY VOLUME COUNT 2011 VS 2018)

| Time | To Delhi University | | To Metro Station | | Total | |
|--------------|---------------------|--------------|------------------|-------------|--------------|--------------|
| | 2011 | 2018 | 2011 | 2018 | 2011 | 2018 |
| 0600 - 0700 | 64 | 70 | 28 | 32 | 92 | 102 |
| 0700 - 0800 | 363 | 406 | 65 | 73 | 428 | 479 |
| 0800 - 0900 | 1049 | 1175 | 146 | 166 | 1195 | 1342 |
| 0900 - 1000 | 1760 | 1990 | 141 | 157 | 1901 | 2147 |
| 1000 - 1100 | 762 | 855 | 304 | 344 | 1066 | 1199 |
| 1100 - 1200 | 710 | 796 | 385 | 430 | 1095 | 1226 |
| 1200 - 1300 | 1382 | 1549 | 579 | 654 | 1961 | 2203 |
| 1300 - 1400 | 1370 | 1540 | 935 | 1058 | 2305 | 2598 |
| 1400 - 1500 | 1173 | 1315 | 1187 | 1360 | 2360 | 2675 |
| 1500 - 1600 | 564 | 647 | 1205 | 1360 | 1769 | 2001 |
| 1600 - 1700 | 327 | 370 | 743 | 840 | 1070 | 1210 |
| 1700 - 1800 | 213 | 236 | 450 | 515 | 663 | 754 |
| 1800 - 1900 | 189 | 206 | 609 | 665 | 798 | 871 |
| 1900 - 2000 | 197 | 216 | 313 | 355 | 510 | 573 |
| 2000 - 2100 | 89 | 101 | 142 | 170 | 231 | 271 |
| 2100 - 2200 | 39 | 45 | 42 | 48 | 81 | 93 |
| TOTAL | 10251 | 11517 | 7274 | 8227 | 17525 | 19744 |

ANNEXURE-18
~~Annexure~~
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Observations on the proposed Group Housing Complex (Multistroyed Residential Complex) near Vishvavidayalya Metro station

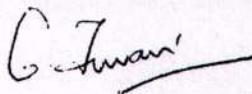
January 2020

By
Prof. G. Tiwari

Department of Civil Engineering/Transportation Research and Injury Prevention Programme

Indian Institute of Technology Delhi

GEETAM TIWARI
MoUD Chair Professor for
Urban Transport & Traffic Planning
Civil Engineering Department & TRIPP
Indian Institute of Technology Delhi
Hauz Khas, New Delhi-110016 INDIA



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1. Group Housing Complex is proposed in the land which was originally allocated to DMRC for constructing facilities required for metro commuters. DMRC sold this land to Young Builders.
2. The project is proposed in an area of 20,000 sq m with built up area of 1,17,733.81 sq m with four towers of 139.6m heights having 410 dwelling units and 920 parking spaces.
3. The project falls within the zone where DDA TOD policy guidelines are applicable. The objective of TOD guidelines is to encourage commuters to use public transport system instead of private vehicles, which leads to increase in traffic load on all roads, especially the major arterial roads. This is achieved by a careful mix of different strategies, such as increasing density, increasing mix of land-uses (commercial and residential together), reduction in parking space to discourage residents to own cars, improving access to public transport stops, improving safety and security around public transport stops, etc. Such strategies are expected to reduce the number of motorized trips to office, and shopping areas, reduce length of trips to encourage use of active transport modes (pedestrians, bicycles, public transport), and reduce dependence on motorized vehicles.

This note summarizes observations on expected impact of traffic generated from the proposed development project on:

- i. Compliance with respect to MPD 2021, zonal development plan, TOD guidelines
- ii. Norms assumed to estimate travel mode shares
- iii. Traffic circulation patterns and its impact on surrounding roads and area
- iv. Assessment of pedestrian traffic generated by the metro commuters in the current scenario.

These observations are based on the traffic analysis prepared by Young builders (YB) in 2011, traffic survey conducted by IITD at three locations near DU in 2018, and commuter ridership data of 2015 and 2016 provided by MoUD to IIT Delhi in 2017.

Observations on each aspect are given below.

i. Compliance with respect to MPD 2021, zonal development plan, TOD guidelines

As per Master Plan of Delhi 2021 (Chapter 12 & 17), the group housing project falls within TOD zone.

Salient features of TOD as per Delhi Master Plan include the following:

Definition

Any development, macro or micro, that is focused around a transit node, and facilitates complete ease of access to the transit facility, thereby inducing people to walk and use public transportation over personal modes of transport.

Main Principles

- High Density, Mixed-use, Mixed-Income Development near stations (Maximum permissible Density - 2000 PPH and FAR - 400)
- Pedestrian & Non-Motorized Transport (NMT) Friendly Environment

G. J. J.

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- Inducing Modal Shift
- Facilitating Multi-Modal Interchange

The proposed group housing comprises of residential units for high income residents. It is not a mixed use project. Therefore it is expected to generate substantial motorized traffic, unless the premises is used by DU faculty staff and students only.

ii. Norms assumed to estimate motorized trips.

The assumptions to estimate generated traffic are not listed. The estimated traffic of 320 PCU in peak hour period and 192 egress trips during the critical peak hour may be an under estimate. Since the group housing is designed for HIG residents, we can expect at least 2 motorized trips per dwelling unit in peak hour. This would result in about 800 motorized trips.

The YB report has assumed 25% of these trips to be in peak hour.

iii. Traffic circulation patterns and its impact on surrounding roads and area

The YB report states " Cavalary lane is proposed to provide access to motorized traffic. With the incremental traffic on Cavalry lane, the aggregate traffic works out to be 601 pcu per hour,... the V/C ratio will be .67 at Level of service C, congested conditions are not expected". This is questionable. Since the estimated traffic will be at least 4 times of the assumed number, Cavalry lane will be congested with v/c exceeding 1.

IIT Delhi has conducted traffic surveys in 2018-19 in 73 location in Delhi. Three locations which are close to the project site show dominance of car traffic shown in Table 1.

Table 1: Modal share around DU in morning peak (IITD Survey, 2018)

| Car | 2-w | 3-w | minibus | bus | light commercial vehicle | heavy commercial vehicles | Car / Jeep (Commercial Yellow plate) | Others (NMV) |
|-----|-----|-----|---------|-----|--------------------------|---------------------------|--------------------------------------|--------------|
| 36 | 34 | 11 | 1 | 3 | 5 | 1 | 1 | 9 |
| 44 | 36 | 8 | 2 | 3 | 2 | 2 | 4 | 1 |
| 50 | 30 | 8 | 0 | 2 | 4 | 3 | 1 | 2 |
| 43 | 27 | 9 | 0 | 3 | 9 | 5 | 1 | 2 |

The consultant's report has given the traffic in 2011, however ,there is no projection made to future years when the project will be completed. With the current growth in motorized traffic, both Cavalry lane and Chattra marg have already reached capacity.

Based on the traffic patterns on surrounding roads, the developer has planned access/egress to the development as follows:

1. Main Access Point from Cavalry lane.
2. Emergency entry proposed on Chattra Marg.

G. J. J.

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Since the main entry to the proposed development area is through entry on Cavalary lane, therefore this lane will have extra traffic. Extra traffic load coming on this segment will have to be estimated. This road has limited right of way(9 m), it has lot of NMV traffic exiting from the metro station, therefore , additional vehicular traffic generated by the proposed development is likely to increase conflicts, unsafe conditions for NMVs and congested conditions for motorized vehicles.

The outer ring road is already running to capacity near this area as indicated by the speed measurements shown in Table 2.

Table 2: Average speed between 9am -2 pm on locations near DU

| Location | | Average 6 hours speed (km/hr) | |
|-------------|-------------------|-------------------------------|----------------------------|
| 24-03-2018_ | GT Road | 33 | |
| 13-03-2018_ | Outer Ring Road I | 37. | |
| 24-04-2018_ | Outer Ring Road 2 | 7. | Congested Direction |

Additional motorized trips generated by the project will come on these roads further adding to the congested conditions.

iv. Estimated Pedestrian Traffic from the metro station

Vishwavidyalay metro station is one of the busiest metro stations. Table 2 shows hourly commuter traffic in2014-15.

Table 2: Commuter ridership at Vishwavidyalay metro station(2014-2015)

| Businessday | Sitename | Entry_count | Exit_count |
|-------------|------------------|-------------|------------|
| 25-12-2014 | Vishwa Vidyalaya | 14077 | 14248 |
| 25-12-2015 | Vishwa Vidyalaya | 15561 | 15397 |

This is about 25% of the daily ridership. We can expect nearly 100000 commuters entering or exiting the metro station daily.

10% increase in commuter traffic can be observed from 2014-2015. This is expected to increase further with larger metro network. Therefore, the pedestrian counts submitted by the consultants on Cavalary lane and Chattra Marg do not show the current pedestrian traffic volume. This needs to be updated and projected for future.

Summary

Observations on compliance and assumptions used various aspects are summarized as:

- i. Compliance with respect to MPD 2021, zonal development plan, TOD guidelines: **No.**
- ii. Norms assumed to estimate travel mode shares: **Not based on current usage.**
- iii. Traffic circulation patterns and its impact on surrounding roads and area: **Based on 2011 traffic survey. No estimates to project it for future. Underestimating personal motorized vehicular trips.**
- iv. Assessment of pedestrian traffic : **Based on 2011, needs to be projected for future.**
- v. Assessment of likelihood of travel mode shares in the current scenario: **Underestimating personal motorized share.**

G. J. J.

ANNEXURE-19

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GRC India

An ISO 9001: 2008, ISO 14001: 2004 & OHSAS 18001: 2007 Certified Lab.
 Recognized by Ministry of Environment, Forest & Climate Change (MoEF&CC, GOI) under the E(P) Act, 1986
 NABL Accredited Laboratory (A Constituent Board of QCI), Chemical: T-2195, Biological: T-2196
 Head Office: F-375, Sector-63, Noida, Gauram Budh Nagar, U.P - 201 301
 Phone No.: 0120 - 4044630, 4044660, 4323120. Fax: 0120 - 2406519, 0120 - 4044675
 Website: www.grcindia.com E-mail: info@grcindia.com

Test Report

Report Code: N20180112-002

Issue Date: 12.01:2018

Issued To : Expansion of Group Housing Complex At 3 Cavalry, Lane&4,Chhatra Marg Near Vishwavidyalaya Metro Station, New Delhi.

Data Received on: 11.01.2018

Sample Description: Ambient Noise

RESULTS

Ambient Noise Level

MONITORING DETAILS

Date of Monitoring : 10.01.2018
 Monitoring Done by : Mr. Narendra Singh
 Monitoring Protocol : GRC/LAB/STP/NOISE/01
 Weather Condition : Clear Sky
 Monitoring Duration : 24 Hours

| S. No. | LOCATION | ZONE | Limit for As Per E(P)A,1986 ; Leq, dB (A) | | Observed Value Leq, dB (A) | |
|--------|--------------|-------------------------|---|--------------|----------------------------|--------------|
| | | | Day Time* | Night Time** | Day Time* | Night Time** |
| 1 | Project Site | Residential Area | 55 | 45 | 63.4 | 49.8 |
| | Day Time | 6.00 a.m. to 10.00 p.m | | | | |
| | Night Time | 10.00 p.m. to 6.00 a.m. | | | | |

****End of Report****

Authorized Signatory
 (Seal & Signature)

1. The results indicated only refer to the tested samples and listed parameters and do not endorse any product.
 2. This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.

ANNEXURE-20

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OFFICE OF THE EXECUTIVE ENGINEER (PL)W-III
DELHI JAL BOARD, VARUNALAYA PH-I,
JHANDEWALAN, FAROL BAGH NEW DELHI-5

No. F322/EE(P)W-III/2015/2315

Date: 07/10/15

Subject: Water Supply Scheme for Group housing at 1,3 cavatary lane and 4 Chhatra Marg Near Vishwavidyala /a Metro Station, Civil line Delhi

The special conditions for approval of above said water supply scheme up to UGR are as under:

1. Total requirement of water for the complex will be restricted to 257029 liters per day. However if water demand is increased subsequently, applicant is legally bound to intimate DJB and pay infrastructure charges thereon.
2. The height of construction i.e. no. of storeys shall be restricted to as per plan.
3. Underground reservoirs of 1,28,500 liters capacity, shall be constructed by the applicant. Their top water levels (TWL's) will be kept below the ground level but top of underground reservoirs should be kept at least 30 cm. above the normal ground level. The UGR shall be modified if already constructed for more capacity.
4. The concerned Executive Engineer (Maintenance) may allow water connection to this complex as per available feasibility. In case, the DJB water is not available, the applicant may be advised to make his own arrangement for supply of water. The required permission from the Advisory Committee under DC (Revenue) or any other agency, if any, for making interim water arrangement shall be taken by the applicant. DJB shall not be responsible for the same.
5. Pump of adequate capacity and head shall be provided with 100% standby arrangement so that water may reach up to the desired head. In addition, alternate arrangement of diesel pumps may also be made so that the same can be used at the time of electricity failure.
6. The water supply services including underground reservoir and boosting arrangements shall be maintained by the applicant and will not be taken over by this department.
7. The applicant has deposited an amount of Rs. 77,10,870/- only for average water demand of 257029 lpd towards the cost of infrastructure fund @ Rs 30/- per liter.
8. Approval is subject to the provision of sewerage disposal and storm water arrangements which has to be got approved from SE(P)Dr. of this departments and from MCO respectively.
9. All corrections made on plan and design calculations etc. i.e. approved documents shall be strictly adhered to. No additions and alterations shall be made in the approved documents without prior approval of the planning Cell.
10. Water harvesting through storing of run-off water including rain water in all new building on plots of 100 sqm and above shall be mandatory. The plans submitted to the local bodies shall indicate the system of storm water drainage along with points of collection of water in surface reservoirs or in recharge wells. These provisions shall be applicable as per the Public Notice(s) of Central Ground water Authority issued from time to time.
11. The applicant will have to install recycling waste water plant. The recycled water will be used for non potable use and horticultural purposes.

07/10/15
EE (PL)W-III

07/10/15

ANNEXURE-21

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Annexure I

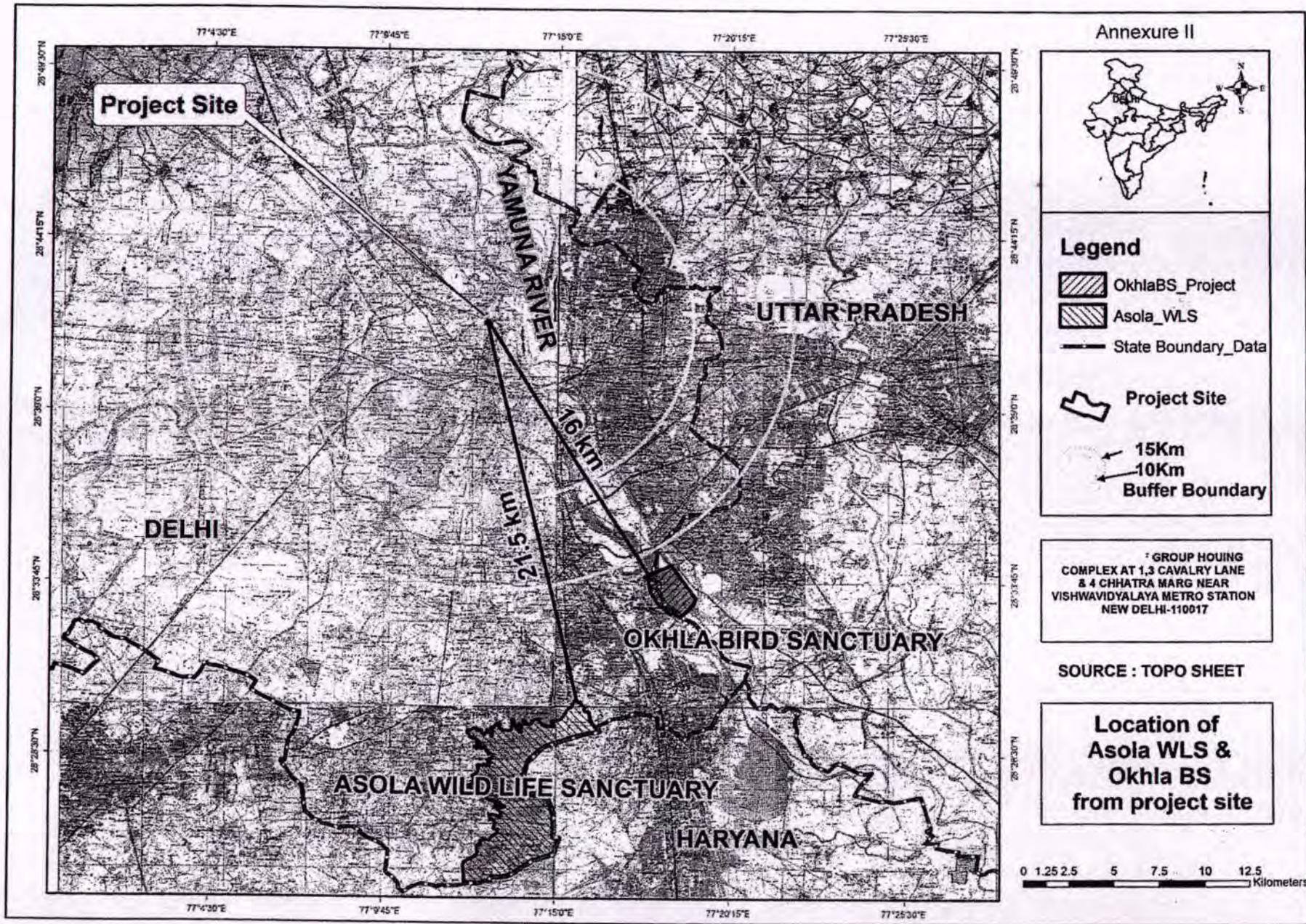
Brief Project Summary

The proposal is for the grant of Environmental Clearance for Amendment in EC of Group Housing Complex at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines (Adjoining Vishwa Vidyalaya Metro Station), Delhi (Project Particulars.)

| | As per Previous EC (A) | As per Amended Application (B) | Total (A+B) |
|---|---------------------------------|--------------------------------|---------------------------------|
| Total Plot Area | 20,000 sqm | - | 20,000 sqm |
| Total Site Area | 20,000 sqm | - | 20,000 sqm |
| Cost of the Project | Rs. 321 Cr. | -Rs. 63.72 Cr. | Rs. 257.28 Cr. |
| Total Built Up Area (FAR + Non FAR) | 70,265.95 sqm | 47,467.86 sqm | 1,17,733.81 sqm |
| Max permissible FAR | 46,600 sqm (inc. EWS FAR) | -100 4 | 6,500 sqm (inc. EWS FAR) |
| FAR proposed | 46,156.72 sqm (inc. EWS FAR) | 2,648.39 (inc. EWS FAR) | 48,805.11 sqm (inc. EWS FAR) |
| Built Up Area (Non FAR) | 24, 109.33 sqm | 44, 819.38 sqm | 68, 928.71 sqm |
| Total No of Units (Dwelling) | 324 (inc. EWS) | 86 (inc. EWS) | 410 (inc. EWS) |
| Total Population | 1,205 Persons | 580 Persons | 1,785 Persons |
| Minimum Green Area required | 3340 sqm | - | 3340 sqm |
| Total Green Area proposed | 8,373.75 sqm | -4,961.78 sqm | 3,411.97 sqm |
| Minimum no. of Trees required | 227 - | | 227 |
| No of Trees proposed | 268 - | | 268 |
| Max permissible Ground coverage | 6,666 sqm | - | 6,666 sqm |
| Total Ground coverage | 2,130.64 sqm | -249.04 sqm | 1,881.6 sqm |
| No. of Towers/Blocks | 4 - | | 4 |
| No. of Floors | S+G+35 + | 2 | S+G+37 |
| Building Height | 117 m | 22.6 m | 139.6 m |
| Total parking required | 922 ECS | -68 ECS | 854 ECS |
| No. of Basements | 2 - | | 2 |
| Area in Basements | 23,522.92 sqm | 8,217.34 sqm | 31,740.26 sqm |
| Area & Parking proposed in Basement- I (Upper) | 11,761.46 Sq.m (362 ECS) | 1,858.67 Sq.m (-175 ECS) | 13,620.13 sqm (187 ECS) |
| Area & Parking proposed in Basement- II (Lower) | 11,761.46 Sq.m (354 ECS) | 1,858.67 Sq.m (-168 ECS) | 13,620.13 sqm (186 ECS) |

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| | | | |
|--|-----------------------|-----------------------|-----------|
| Area & Parking proposed in Basement- III | NA NA | | NA |
| Source of Water during construction Phase | Private Water Tankers | Private Water Tankers | |
| Total water requirement during construction Phase | 351 MLD | 238 MLD | 589 MLD |
| Source of Water during Operational Phase | Delhi Jal Board | Delhi Jal Board | |
| Total water requirement during Operational Phase | 203 KLD | 21 KLD | 224 KLD |
| Fresh Water requirement during Operational Phase | 106 KLD | 51 KLD | 157 KLD |
| Reuse of treated Water during Operational Phase | 129 KLD | 25 KLD | 154 KLD |
| Total wastewater generation | 129 KLD | 63 KLD | 192 KLD |
| Capacity of STP | 55 KLD | 155 KLD | 200 KLD |
| Technology for STP | MMR MB | R | |
| Reuse of treated water in Flushing | 61 KLD | 6 KLD | 67 KLD |
| Reuse of treated water in Cooling | NA NA | | NA |
| Reuse of treated water in Horticulture/ Gardening | 24 -14 | | 10 KLD |
| Reuse of treated water in other purposes (specify) | -- | | - |
| Total solid waste generation | 504 KG | 336 KG | 840 KG |
| Total number of RWH pits | 3 3 | | 6 |
| Total power requirement | 1,266 KW | 1,542 KW | 2,808 KW |
| Capacity of DG Sets proposed | 2,010 kVA | 2,490 kVA | 4,500 kVA |



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ANNEXURE-22

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YOUNG BUILDERS (P) LTD.

43, Babar Road, Bengali Market, New Delhi-110001
Ph.: 91-11-42355235, Fax.: 91-11-42355250

Dated: 13.03.2018

To,
The Chairman,
SEAE, Delhi~~Amendment~~

708

Subject:- Amendment in environment clearance
of Group Housing Project at 1,3 Calcutta
Lane & 4 Chhatra Marg, Civil Lines, Delhi.

Ref :- 96th SEAE meeting, Agenda Item no. 2

Dear Sir,

This has reference to the above subject
as suggested by the Committee members we have
revised the water calculation and water mass balance
for the project.

The revised details are enclosed as appendix
to this letter for your kind reference.

You are requested to grant us the amended
Environment Clearance at earliest & oblige us.

Thank you,

Yours sincerely,



Rajiv Ranjan Sharma
Vice President (Project)

QUERY 1

Point No. 1: Revised water mass balance chart with minimum excess waste water discharge in rainy and non-rainy season and with action plan to re-use/recycle the excess treated water.

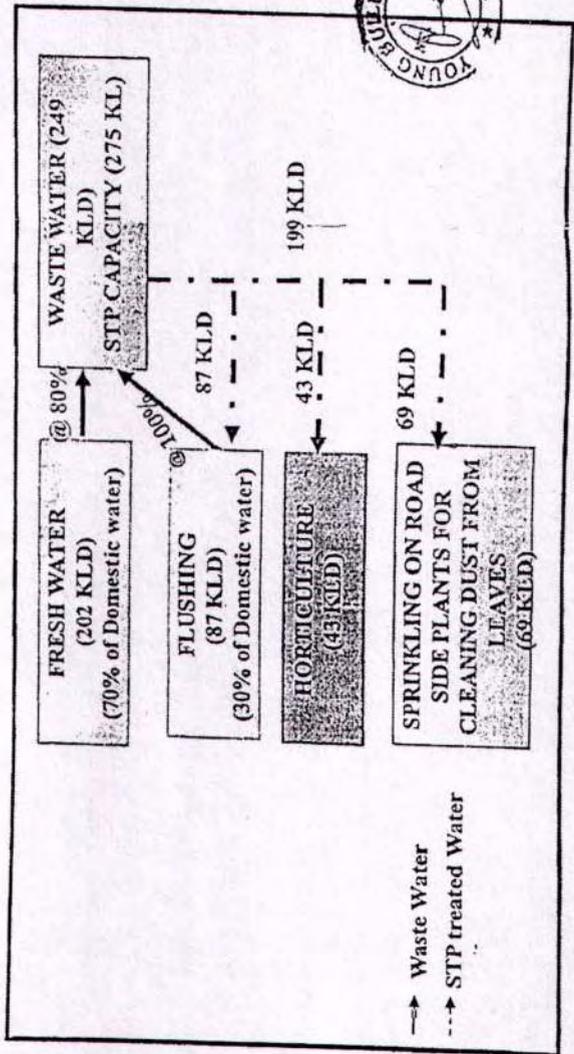
Reply:

| S.No. | Description | Occupancy | Rate of water demand (lpcd) | Total Water Requirement (KLD) |
|-------|---|-----------|-----------------------------|-------------------------------|
| A. | Domestic Water | | | |
| | Residents (Main DUs) | 1161 | 200 | 232 |
| | Residents (EWS) | 380 | 135 | 51 |
| | Staff (maintenance) | 58 | 45 | 2.6 |
| | Visitors | 116 | 15 | 1.7 |
| | Staff (shops) | 30 | 45 | 1.35 |
| | Community Building | 40 | 15 | 0.60 |
| | Domestic Water (A=I+II+III+IV+V) | | | 289 |
| B. | Horticulture (6079.88 m ²) | | 7 lt./sqm/day | 43 KLD |
| | Grand Total (A+B) = 332 KLD | | | |

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WASTE WATER CALCULATIONS & REVISED WATER MASS BALANCE

| | |
|--|--------------------|
| Domestic Water Requirement | 289 KLD |
| • Fresh water (@ 70% of domestic) | 202 KLD |
| • Flushing (@ 30% of domestic) | 87 KLD |
| Waste Water Generated (@ 80% fresh + 100% flushing) | 162 + 87 = 249 KLD |



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ANNEXURE -23**326**

No.22-154/2015-1A.III
 Government of India
 Ministry of Environment, Forest and Climate Change
 Impact Assessment Division

Indira Paryavaran Bhavan
 Jorbag Road, Aliganj,
 New Delhi-110003

Dated: 10th November 2015

OFFICE MEMORANDUM

Subject: Environment Clearance by State Level Environmental Impact Assessment Authority/ State Level Expert Appraisal Committee with special reference to buildings and construction sector projects under Item 8 (a) and 8(b) of the Environment Impact Assessment Notification, 2006-regarding.

The EIA Notification, 2006 provides for Scoping of project as one of the stages of the prior environmental clearance process, under which the Expert Appraisal Committee(EAC) in the case of Category 'A' projects or activities, and State Level Expert Appraisal Committee(SEAC) in the case of Category 'B1' projects or activities determine detailed and comprehensive Terms of Reference (TORs) addressing all the relevant environmental concerns, for the preparation of EIA and EMP report, so as to improve the quality of EIA and EMP. Pursuant to streamlining the process of environment clearance, the Ministry of Environment, Forest and Climate Change had issued Standard Terms of Reference for different sectors including buildings and construction sector projects.

2. It has been emphasized time and again, in the past that all the relevant information relating to a particular project should be raised in one go, while consideration of the project for scoping and seeking piece meal information during appraisal of the project should be avoided. It has been clarified that in appraisal of building and construction sector projects, information relevant to environmental concern should only be raised. However, it has come to the notice of the Ministry that the practice of seeking piece meal information is still continued and every time some new issues are raised, which directly do not pertain to environmental concern, while appraising the project, which result in delay in processing of cases, particularly at the level of SEIAA and SEAC.

3. The Ministry is in receipt of information about delay in processing of cases at the level of SEIAA and SEAC on account of (i) additional information sought on issues not directly related to environment and (ii)

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process adopted for listing such cases at the end of the queue after submission of information by the project proponents. In order to bring uniformity in dealing with such cases across the country and to streamline the process, it has been decided to follow the following procedure:

4. The requirement of environment clearance for buildings and construction projects should focus on environmental concerns and avoid duplication of efforts considering that such projects will be covered by the local civic authorities and under the provisions of the relevant master plan, building control regulations and safety regulations. The instructions issued vide this Ministry's earlier Office Memorandum No.21-270/2008-1A.III dated 19th June, 2013 should be followed in letter and spirit.

- (i) Timelines stipulated in the EIA Notification, 2006 shall be strictly adhered to by SEIAA and SEAC while processing the proposals for TOR/EC for the building and construction projects and township and area development projects. SEAC will make appropriate recommendations within sixty days of the receipt of the complete proposal from the project proponents. SEIAA shall consider the recommendations of the SEAC and convey its decision to the applicant within forty five days of the receipt of the recommendations. MoEF will regularly review the progress in disposal of cases by SEIAAs with the view to ensuring meeting of these timelines.
- (ii) In order to meet the stipulated timelines, to avoid duplication of work, and to speed-up the process of scrutiny, SEIAA/SEAC should only focus on the following thrust areas of environmental sustainability while appraising the 'Building and Construction' and 'Township and Area Development' projects.
 - a. Brief Description of the Project in terms of location and surroundings.
 - b. Environmental Impacts on Project Land and its surrounding developments and vice-versa.
 - c. Water Balance Chart with a view to promote waste water treatment, recycle, reuse and water conservation.
 - d. Waste Water Treatment and its details including target standards.
 - e. Alterations in the natural slope and drainage pattern and their environmental impacts on the surroundings.

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- f. Ground water potential of the site and likely impacts of the project.
- g. Solid Waste Management during construction and post construction phases.
- h. Air Quality and Noise Levels; likely impacts of the project during construction and operational phases.
- i. Energy requirements with a view to minimize power consumption and promote use of renewal energy sources.
- j. Traffic Circulation System and connectivity with a view to ensure adequate parking, conflict free movements, Energy efficient Public Transport.
- k. Green Belt/Green cover and the Landscape Plan.
- l. Disaster/Risk Assessment and Management Plan,
- m. Socio Economic Impacts of the project and CSR.
- n. EMP during construction and operational phases.
- o. Any other related parameter of the project which may have any other specific impact on environmental sustainability and ecology.

5. In case, where additional information has been sought and the project proponent is not in a position to provide the same during the appraisal by the SEAC, and he can provide it on next date or on any date during the meeting of the SEAC, he can submit the requisite information and his case be considered for appraisal accordingly.

6. In case the additional information sought cannot be presented by the project proponent during the same meeting days, and the Project Proponent can provide the requisite information before the next meeting, the case will be taken up for consideration in the next SEAC meeting for appraisal. So cases in which additional information has been sought will be taken up for appraisal in very next meeting scheduled after filing of the requisite information.

7. The Project Proponent approach the Ministry in case of Category 'B' projects by applying online for obtaining prior environment clearance in case the SEIAA / SEAC of any State or UT is not constituted. The cases are returned to the SEIAA / SEAC after its reconstitution. It is clarified that the date of online application to Ministry's portal will be taken as the date for deciding the chronology / seniority for that case by the SEIAAs / SEACs. 

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8. The SEIAA/SEAC need not focus on the other issues which are normally looked after by the concerned local bodies/ State Government Departments/SPCBs.

This issues with the approval of the Competent Authority.



(Satish C. Garkoti)
Scientist 'F'

To

1. All the Officers of IA Division
2. Chairpersons/Member Secretaries of all the SEIAAs/SEACs
3. Chairman, CPCB
4. Chairpersons / Member Secretaries of all SPCBs / UTPCCs

Copy to:

1. PS to MEFCC
2. PPS to Secretary (EFCC)
3. PPS to SS(HKP)
4. PPS to AS(SK)
5. PS to JS (MKS)
6. PS to JS (BS)
7. Website of the MoEF
5. Guard File

ANNEXURE-24~~24~~**330**

Annexure - I

Revised Water Calculations & Water Mass Balance

The total water requirement for the project will be approx. 257 KLD, out of which domestic water requirement is 214 KLD. The fresh water requirement is approx. 157 KLD. The water will be supplied by Delhi Jal Board. The revised daily water requirement calculation are given below in Table 1:

Table 1: Revised Calculations for Daily Water Demand (EC Accorded + Amended)

| S. No. | Description | Occupancy | Rate of water demand (lpcd) | Total Water Requirement(KLD) |
|------------------------------------|---|-----------|-----------------------------|------------------------------|
| A | Domestic Water | | | |
| | Residential | 1,151 | 135 | 157 |
| | EWS | 380 | 135 | 51 |
| | Staff (maintenance) | 58 | 45 | 2.6 |
| | Visitors | 116 | 15 | 1.7 |
| | Staff (shops) | 30 | 45 | 1.35 |
| | Community Building | 40 | 15 | 0.60 |
| | Domestic Water (A=I+II+III+IV+V) | | | 214 |
| B. | Horticulture (6079.88 m ²) | | 7 lt./sqm/day | 43 KLD |
| Grand Total (A+B) = 257 KLD | | | | |

Table 2: Wastewater Calculations

| | |
|--|-------------------|
| Domestic Water Requirement | 224 KLD |
| • Fresh water (@ 70% of domestic) | 157 KLD |
| • Flushing (@ 30% of domestic) | 67 KLD |
| Waste Water Generated (@ 80% fresh + 100% flushing) | 125 + 67= 192 KLD |

The revised water balance diagram is shown below in Figure 1:

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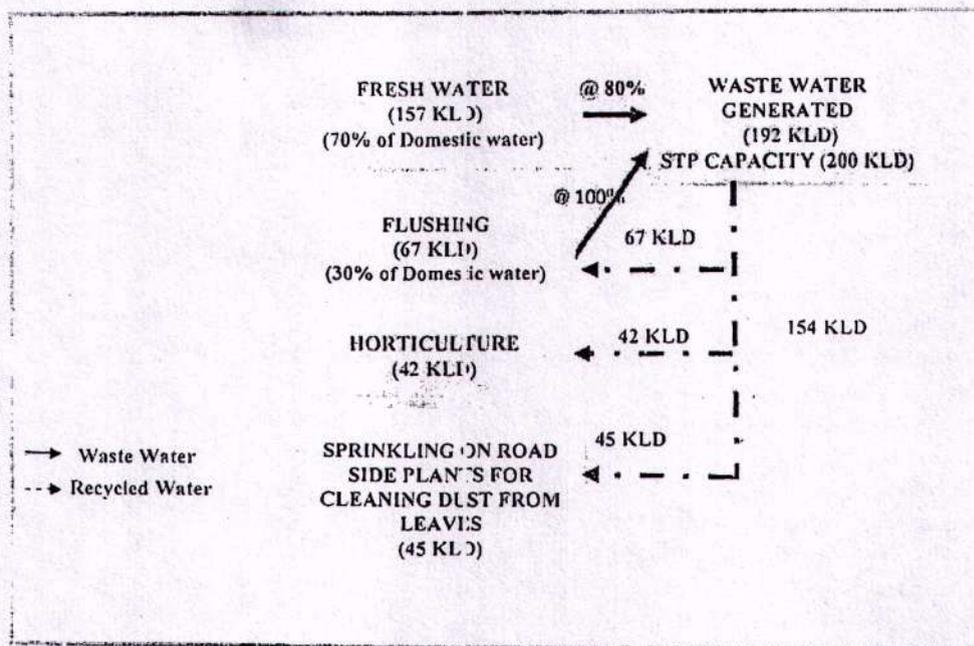


Figure 1: Revised Water Balance Diagram

Wastewater Generation & Treatment

It is expected that the project will generate approx. 192 KLD of wastewater. The wastewater will be treated in STP of 200 KL capacity provided within the complex generating 154 KLD of recoverable water from STP which will be recycled within the project for Flushing, Horticulture, etc..

ANNEXURE-25**332**

Annexure - IV

Point-wise response to the points stated in MoEFCC circular no. J-11013/71/2016-
IA.I(M) dt: 25 October, 2017

| S. No. | POINT | RESPONSE |
|--------|---|---|
| 1. | Revalidation of data with respect of grant of ToR/EC to be carried out on regular basis. | Purview of SEIAA/SEAC. |
| 2. | While Scrutinizing the EIA reports, may ensure that they are as per the ToR, comply with the generic structure, baseline data is accurate and concerns raised during the public hearing are adequately addressed. | Since, it is a Category B2 project (Schedule 8 a as per EIA Notification, 2006), ToR and Public Hearing is not applicable. Baseline data has been revalidated with government records and was submitted along with the EC application. A copy enclosed herewith as Appendix- I. |
| 3. | The EIA Reports/EC letters should clearly mention cost of activities under EMP and ESR along with the timeline of their implementation. | EMP cost is attached as Appendix-II. |
| 4. | EMP/EC conditions should be more specific for the area to be developed under green belt and species to be planted in consultation with forest/Agriculture Department along with post EC third party evaluation. | We have proposed native tree species for development of green area within project site. Landscape details are enclosed as Annexure-VI. |
| 5. | Copy of EC letter to these projects should be endorsed to CGWA to ensure monitoring of ground water extraction. | There is no ground water abstraction involved in the project. |
| 6. | While appraising the EC application, the name and number of post to be engaged by the proponent for implementation and monitoring of environmental parameters be specified. | The proposed hierarchy of Environment Management Cell is enclosed as Appendix-III. |
| 7. | While prescribing the condition of EC please mention installation of monitoring stations and frequency of monitoring of various environment parameters in respect of air, surface water noise etc. | Environment monitoring plan with parameters is enclosed as Appendix-IV. |
| 8. | While scrutinizing the EC application, should ensure that the EIA Report is prepared by accredited consultant having no conflict of interest with any Committee processing the case. | The environment consulting services have been provide by QCI accredited consultant, Grass Roots Research & Creation India (P) Ltd. [QCI Certificate no. NABET/EIA/1619/RA 0064] |

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|-----|---|--|
| 9. | The condition of EC should be compatible with the nature and type of project in order to avoid non-uniformity in similar kinds of projects. | Purview of SEIAA/SEAC. |
| 10. | The EIA Report should clearly mention activity wise EMP and ESC cost details and should depict clear breakup of the capital and recurring cost along with the timeline for incurring the capital cost. The basis of allocation of EMP and ESC cost should be detailed in the EIA report to enable the comparison of compliance with the commitment by the central and state monitoring agencies. The capital and revenue expenditure amount to be spent on EMP and CSR should be distinctly specified in the EC letter. It should be ensured that there is a time bound action plan for fulfilling the EMP commitment mentioned in the EIA Report to the EC letter. | <p>Environment Management Plan & Environment Monitoring Plan details presented above.</p> <p>EIA/EMP study is not applicable as it is a Category B2 project.</p> |
| 11. | On maintenance of separate account for EMP and ESC, EC conditions should be more specific like opening a separate bank account and accounting format with specific heads of account in order to provide financial accountability by project proponents. This should be made compulsory part of the Annual Environment Statement. | Separate bank account will be opened and maintained for Environment Management Plan. |

ANNEXURE-26

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Annexure - VII a

Solar PV Panel Details

Total electrical requirement = 2808 kVA

Requirement of solar energy @ 1% total electrical load = $2808/100$
= 28.08 kVA

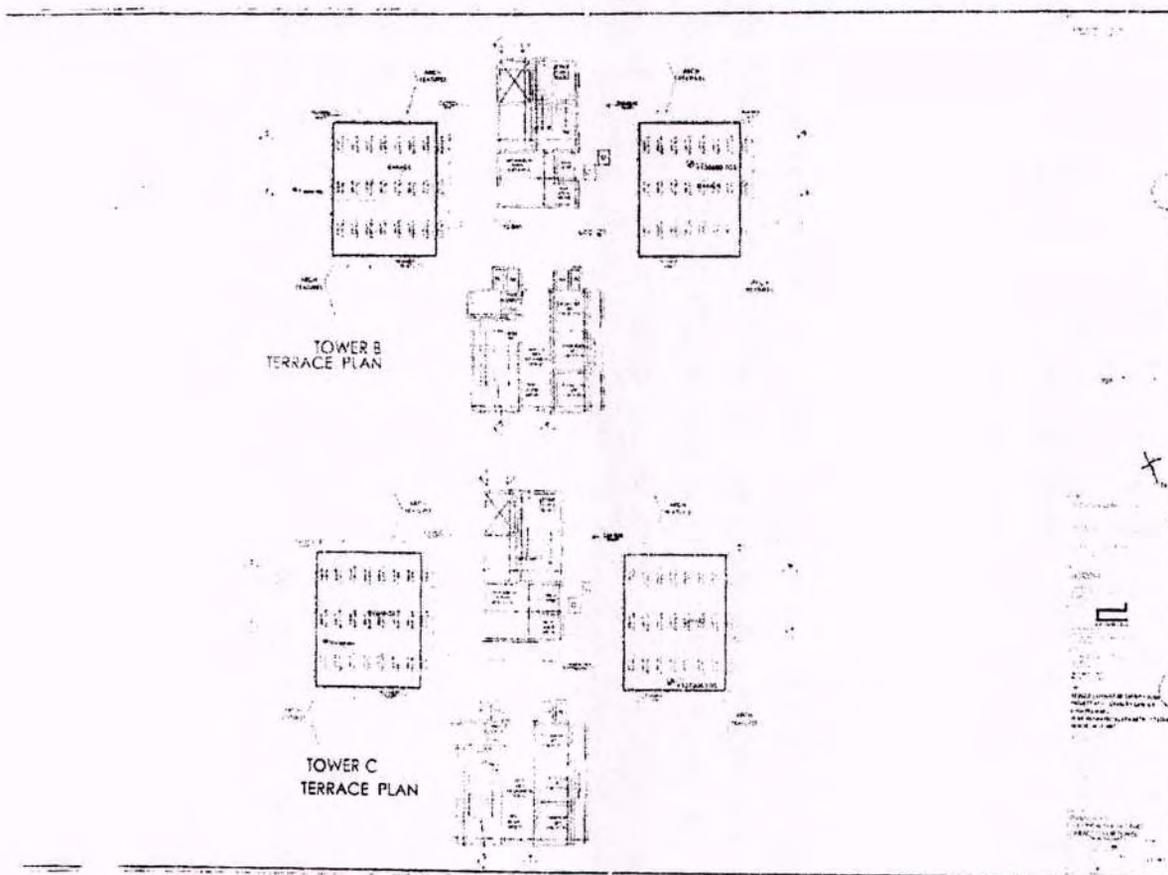
We have proposed 96 Nos. PV Panel on terrace of Tower B & C

Each Panel shall be generate 300 W

So, total Power generated through solar = 300×96 Watt
= 28.8 kW (more than 1% of load)

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ANNEXURE-27

No.J-11013/71/2016-IA.I(M)
 Government of India
 Ministry of Environment, Forest and Climate Change
 (Impact Assessment Division)

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Indira Paryavaran Bhawan,
 Jor Bagh Road,
 New Delhi – 110003

Dated: 25th October, 2017

CIRCULAR

Subject: Compliance to the recommendations of the CAG – Reg.

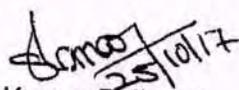
It is to inform that CAG has carried out a Performance Audit of Impact Assessment (IA) Division and submitted a report on environment clearance and post clearance monitoring (Report No.39 of 2016). Copy of the Report has already been circulated and it is also available on the website of C&AG. In this report a number of recommendations have been given for further streamlining the functioning of IA Division.

2. In view of the above, all Member Secretaries / Directors / Joint Directors working in IA Division are requested to adhere to the following recommendations of performance audit with immediate effect.

- i. Revalidation of data with respect of grant of ToR / EC to be carried out on regular basis with NIC.
- ii. While scrutinizing the EIA Reports, may ensure that they are as per the ToR, comply with the generic structure, baseline data is accurate and concerns raised during the public hearing are adequately addressed.
- iii. The EIA Reports / EC letters should clearly mention cost of activities under EMP and ESR along with the timelines for their implementation.
- iv. EMP/EC conditions should be more specific for the area to be developed under Green belt and species to be planted in consultation with Forest / Agriculture Department along with post EC Third Party evaluation.
- v. Copy of EC letter to these projects should be endorsed to CGWA to ensure monitoring of ground water extraction.
- vi. While appraising the EC application, the name and number of posts to be engaged by the proponent for implementation and monitoring of environmental parameters be specified.
- vii. While prescribing the conditions of EC please mention installation of monitoring stations and frequency of monitoring of various environment parameters in respect of air, surface water, ground water noise etc.

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- viii. While scrutinizing the EC application, should ensure that the EIA Report is prepared by accredited consultant having no conflict of interest with any Committee processing the case.
 - ix. The conditions of EC should be compatible with the nature and type of project in order to avoid non- uniformity in similar kinds of projects.
 - x. The EIA Report should clearly mention activity wise EMP and ESC cost details and should depict clear break-up of the capital and recurring costs along with the timeline for incurring the capital cost. The basis of allocation of EMP and ESC cost should be detailed in the EIA Report to enable the comparison of compliance with the commitment by the Central and State monitoring agencies. The capital and revenue expenditure amount to be spent on EMP and CSR cost should be distinctly specified in the EC letter. It should be ensured that there is a time bound action plan for fulfilling the EMP commitment mentioned in the EIA Report to the EC letter.
 - xi. On maintenance of separate account for EMP and ESC, EC conditions should be more specific like opening a separate bank account and accounting format with specific heads of accounts in order to provide financial accountability by project proponents. This should be made compulsory part of the Annual Environment Statement.
3. This issues with the approval of the Competent Authority.


 (Sharath Kumar Pallerla)
 Director / Scientist 'F'

To

1. All the officers of IA Division
2. Chairperson / Member Secretaries of all the SEIAAs/SEACs
3. Chairman of all the Expert Appraisal Committees

Copy for information to:

1. PS to Hon'ble Minister for Environment, Forest and Climate Change
2. PS to Hon'ble Minister of State for Environment, Forest and Climate Change
3. PPS to Secretary (EF&CC)
4. PPS to AS(AKM) / AS(AKJ)
5. PPS to JS(GB) / JS(JT)
6. Website, MoEF&CC
7. Guard file.

ANNEXURE-28

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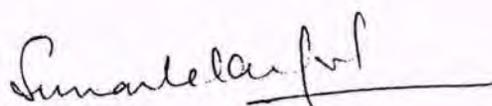
Points on the Environmental clearance for the construction of 39-storey building complex near Vishwavidyalaya Metro Station in view of the NGT order dated 08.01.2020

Though I was an Expert member of the State Expert Appraisal Committee (SEAC) of NCT Delhi, to the best of my memory this project was not presented in my presence. That said, as a member of academia of the University of Delhi and as a responsible citizen of Delhi, I strongly feel that the proposed high-rise building at the entry to the University is highly undesirable and its construction should stay abandoned for numerous reasons.

First and foremost, this high-rise building in the vicinity of the Delhi ridge, rightly been termed as 'lungs of Delhi' will pose a serious threat not only to the adjacent areas but the entire city of Delhi. Delhi ridge provides invaluable ecological security to the capital state. The construction of a high rise structure in such proximity of Delhi ridge and the resultant extraordinary burden on air, soil, water and social resources during construction phase as well as after the occupancy will prove detrimental to the survival of a critically balanced ecosystem that is nourished by the below and above ground natural resources. This critical ecosystem is already in a fast-declining urban landscape.

The Ridge is largely responsible for earning the honor of 'the greenest capital in the world' for Delhi. The flora and fauna of the Delhi Ridge is unique due to its unique geographic location in the transition zone of two contrasting ecosystems, namely the semi-arid and arid desert of the west and the fertile Gangetic Plains of the east; this unique biodiversity is an ecological asset (Sinha, 2014). In fact, the need to protect this area was voiced by Mughal ruler two centuries ago and has ever since been treated as 'Sanctum sanctorum' by various regimes and government regulations.

It is pertinent to point out that the depletion of ground water near Delhi ridge is bound to have undesirable effects on its vegetation and particularly of the University Campus. High rate of ground water depletion and nonrenewable water use resulting in lowering of water table sets in a chain of effects leading to altered species composition and ultimately irreversible damage to the ecosystem (Biekner & Wada, 2019). In fact, depletion of groundwater in northern part of India has been reported to be the highest compared to any similar sized region on the earth (Tiwari et al,



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2009). Further, various studies have clearly suggested that in arid/semiarid regions, groundwater table fluctuations not only affect the growth of vegetation but also community structure and ecosystems (Huang et al 2019). Therefore, a drastic increase in the human population density concentrated in a small area will adversely impact the above and below ground natural resources. This, in turn will exacerbate the impact of climate change in the city leading to extreme weather conditions and adversely affecting the microclimate of Delhi University. These irreversible changes will negatively impact the life of thousands of students and the citizens of the NCT. The importance of Ridge can be well understood from the lines quoted from the book - '*The Delhi Ridge Forest – Decline & Conservation*' published by Kalpavriksh.

"...it serves as a sort of giant central air-conditioning plant – enter its precincts on even the hottest of summer days and you will immediately experience a perceptible drop in temperature. Further it provides the increasingly polluted capital with oxygen, as well as absorption of pollutants; it blocks the dust and tames the hot dusky 'loos' that sweep across the city in summer; it acts as a massive sound insulator, absorbing some of the hubbub of the city. And finally of course it gives the jaded city-dweller a taste of nature, at the doorstep, a place where one can jog, walk or exercise, and replenish one's aesthetically battered senses."

Further, recent studies have clearly brought out the links between ground water depletion and forest fires; therefore, the importance of total ban on any activity leading to lowering of water table near a natural forest (Ridge area) in view of the recent frightening bushfire in Australia cannot be overemphasized (Muh et al 2017).

More importantly, construction of the proposed high-rise residential complex within few hundred-odd meters from the Vallabh Bhai Patel Chest Institute (VPCI), a Postgraduate Medical Institute, under the University of Delhi and funded by the Ministry of Health & Family Welfare, GOI with a specialized mandate of Chest diseases is highly objectionable. It will undermine the national mandate of this prestigious institute, which not only caters to people suffering from chest diseases, but also fulfils the national need to provide medical education in the field of respiratory diseases and other pulmonary ailments. Any activity that becomes a potential source of increase in pollution load in the close neighborhood will defeat the very purpose of the

Suman Chatterjee

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Institute and will hamper the recovery of the patients already suffering from health problems due to deteriorating environment (Kurt et al., 2016).

It is noteworthy that a comprehensive study aimed at analysis of health risks carried out by IIT, Roorkee in collaboration with prestigious Humphrey School of Public Affairs, Minneapolis, USA and School of Public Affairs, University of Colorado, USA has unequivocally concluded that Delhi's North West District suffers from the highest number of mortality and morbidity cases in the National Capital Territory of India (Nagpure et al., 2014). The study clearly correlates this result with "The rising population and infrastructure growth in North Delhi".

Additionally, the construction of a high rise inside the Delhi University campus does not gel aesthetically with the surroundings due to the presence of buildings already designated as "the national heritage". It is of utmost importance to keep in view the notification of DDA on 'Conservation of the built heritage' regarding the conserving the heritage resources:

As stated in **Review Of Master Plan For Delhi - 2021** (As Notified on 07/02/2007)

10.2 CONSERVATION STRATEGY

Built heritage of Delhi needs to be protected, nourished and nurtured by all citizens and passed on to the coming generations. It is suggested that with the aim of framing policies and strategies for conservation, appropriate action plans may be prepared by all the agencies. These should include promotion of conservation of the civic and urban heritage, architecturally significant historical landmarks, living monuments, memorials and historical gardens, riverfront, city wall, gates, bridges, vistas, public places, edicts and the ridge.

It is recommended that these should be suitably incorporated while preparing layout plans / schemes. In case of major monuments it is necessary that the surrounding area should be identified in the layout / detail plan, and should have building controls in relation to height, material and spread of the monuments.

Suman Kulkarni

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In light of the above established scientific evidence, there is an urgent and serious need to have a reassessment of the site by the concerned authorities such as DUAC and North MCD and the honorable Courts before a irreparable damage occurs.

References:

Biekens, M.F.P and Wada Y.2(2019) Nonrenewable groundwater use and groundwater depletion: A review. Environ. Res. Lett 14 (6): 0630022

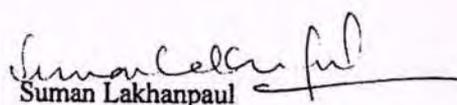
Huang F., Zhang Y., Zhang D. and Chen Xi (2019) Environmental Groundwater Depth for Groundwater-Dependent Terrestrial Ecosystems in Arid/Semiarid Regions: A Review Int. J. Environ. Res. Public Health 2019, 16, 763; doi:10.3390/ijerph16050763

Muh, T., Torfs, P. J. J. F., Uijlenhoet, R., Jones, P. D., Murdiyarto, D., & van Lanen, H. A. J. (2017). Amplification of wildfire area burnt by hydrological drought in the humid tropics. Nature Climate Change, 7(6), 428-431. <https://doi.org/10.1038/nclimate3280>

Nagpure A.S.; Gurjar B.R. and Martel J.C. (2014) Human health risks in national capital territory of Delhi due to air Pollution Atmospheric Pollution Research 5: 371-380

Sinha, G.N. (Ed.) (2014). An Introduction to the Delhi Ridge. Department of Forests & Wildlife, Govt. of NCT of Delhi, New Delhi. xxiv+154 pp.

Tiwari, V.M. J., Wahr J., and Swensen, S. (2009) Dwindling groundwater resources in Northern India from satellite gravity observation. Geophysical research letters, 36, L18401, doi:10.1029/2009GL039401, 2009

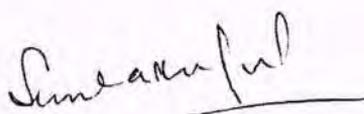

Suman Lakhanpaul

Professor

Botany Department

University of Delhi

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ANNEXURE-29Confidential

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Some points on the geological issues related to the Environmental Clearance for the construction of high-rise housing complex near Vishwavidyalaya Metro Station, in view of the NGT Order dated 08.01.2020.

1. Preamble:

The Environmental clearance of the construction of a 39-storied high-rise building complex near the Vishwavidyalaya Metro Station (on Cavalry Lane and Chhatra Marg) was discussed in the meeting of the State Expert Appraisal Committee (SEAC), Delhi on 24.02.2018 and 13.03.2018. I was a nominated member of the SEAC from 2015-2018 (notified by the Govt of NCT of Delhi); in the capacity of an expert on geological issues, if any. For other technical issues (e.g. air pollution/noise pollution/ sewerage/ waste management/ green cover etc.) related to any construction project, there were individual experts from different organizations like IIT Delhi, School of Planning and Architecture, Delhi Technological University etc.).

In the case of the aforesaid high rise building, I raised a geological point that such a tall building may have significant seismic hazard risk, as Delhi falls in seismic hazard prone (Zone IV) area, and the possibility of shaking-induced liquefaction of soil has been reported in published literature. In this regard, I was assured that this point will be taken care of in the final Environmental Clearance (EC). The EC, later issued by the State Environmental Impact Assessment Authority (SEIAA), included a clause: "The approval of competent authority shall be obtained for structural safety of the building due to earthquake, adequacy for fire fighting equipment etc. as per National Building Code including protection measures from lightning etc." (Part-A - I, Clause 5 of the EC dated 23.03.2018). Similarly, regarding the issue of groundwater, it has been included in the EC that no groundwater can be used without prior permission of Delhi Jal Board, who is the competent authority and custodian of this aspect (Part A-II, Clause 16 of the EC reads - "Proponent shall obtain prior permission for groundwater withdrawal from Delhi Jal Board in compliance with notification dated 12.07.2010"). Other than the above, there was no technical issue on which I was competent to give any expert opinion. However, as a common citizen and a resident of the University area, I pointed out in the meeting that the traffic (a large number of motor vehicles) added due to such a high rise housing society may result in traffic congestion in the Delhi University north campus, especially on the Chhatra Marg and its connecting roads, which already bear heavy traffic, and is also used every day by a large number of DU students who commute by rickshaw or on foot to/from their colleges/departments from the Vishwavidyalaya Metro station/Mall road bus stops. The SEAC later imposed a special condition that "Chhatra Marg should be used for pedestrian and non-motorised vehicles or only in case of emergency with restricted motorized vehicle" which is reflected in the EC issued by SEIAA (Section V, Clause 1 in page 6 of the EC). There was no scope of any further argument from my side as all the points discussed were technical, and belonged to the expert knowledge domain of different other members of the SEAC. However, to elaborate the issue of seismic hazard and soil liquefaction problem in Delhi region, as asked by the relevant authority, I am attaching a short geological note below, which may be considered by the competent authority for future discussion/deliberations on the subject.

2. Geological Note:

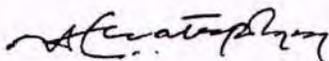
Delhi, a large metropolis and one of the most populous cities of India, lies in a moderate to high earthquake-prone zone (Zone IV) with earthquake intensity of VIII on Modified Mercalli Intensity scale (Rao and Satyam 2007). The densely populated city with many man-made large structures is prone to damage due to earthquakes of moderate to high magnitude (>6). The seismic risk of the region stems from not only local earthquakes, but also from large earthquakes in the nearby Himalayan region. It has been observed that most of the

21/01/2020

earthquakes in this region have epicentres clustered around Rohtak and around Delhi. A number of tectonic lineaments are possibly active in the Delhi region that can cause earthquakes (Iyenger 2000). Geologically, Delhi region contains bedded and jointed quartzite (with relatively minor schists, and pegmatite intrusives) of the Aravalli mountain ranges, along with older and newer river alluvium comprising sand, silt and clay with kankar (Rao and Satyam 2007, Thoithoi et al. 2016). It has been observed by several workers that strong ground shaking caused by such earthquakes lead to liquefaction of such water-rich soil/alluvium. Iyenger (2000) observed that ground acceleration of 10 cm/s^2 has been recorded in Delhi in the soft soil whereas stations based on hard rock did not record the seismic event at the trigger level of $0.001g$ acceleration. This implies that the base rock level ground motions have been amplified by the deep soil deposits upto 10cm/s^2 at the surface level. Therefore, tall buildings built on thick deposits of alluvium are likely to experience significant seismic risk due to amplified ground shaking propagated through the soil. Rao and Satyam (2007) noted the following: "Damages caused by liquefaction of saturated soil showed that after liquefaction the ground failed, sand boiling occurred and the structure subsided unevenly causing tilting, cracking or even collapse. Therefore conventional seismic measures of reinforcing the upper part of the structure in such situation are entirely in vain". This shows that tall high-rise buildings in Delhi stand great risk from seismically induced liquefaction of subsurface soil. In a detailed study of liquefaction potential of subsurface soil layers in Delhi, Thoithoi et al. (2016) have shown that most of the area in the east, northeast and northern part of Delhi are more prone to liquefaction of soil during moderate to high magnitude earthquakes, e.g. the areas in Yamuna bank, Seelampur, Shahdara, Rohini (Sector 9), Khyber Pass (Civil Lines) among others. The liquefaction susceptibility of soil layers upto 20m depth from the ground level is shown to be high in most of these areas, including Khyber Pass (Table I of Thoithoi et al. 2016). The proximity of the Vishwavidyalaya Metro station (adjacent to which the very tall high-rise building is being proposed to be built) to the high liquefaction prone area like Khyber Pass (Civil Lines), warrants a detailed scientific study of the soil liquefaction potential of the project site in question, and its possible implications for the structural foundation and potential risk of such tall buildings in view of the observations made by different researchers as discussed above. The results of such a comprehensive study should be critically evaluated by a competent committee of experts of the relevant discipline.

References:

- 1) Iyengar, R. N. (2000) Seismic status of Delhi Megacity: Current Science, vol 78, no. 5, pp. 568-574.
- 2) Rao, K.S. and Satyam, D. N. (2007) Liquefaction studies for seismic microzonation of Delhi Region: Current Science, vol. 92, no. 5, pp. 646-654.
- 3) Thoithoi, L., Dubey, C. S., Ningthoujam, P.S., Shukla, D. P., Singh, R.P. and Naorem, S.S. (2016) Liquefaction potential evaluation for subsurface soil layers of Delhi Region: Journal Geological Society of India, vol. 88, pp. 147-150.



(Prof. Anupam Chattopadhyay)

Date: 31.01.2020

Dr. A. Chattopadhyay
Professor
Department of Geology
University of Delhi
Delhi-110007, INDIA

T.C
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BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Appeal No. 112/2018

~~10~~ ANNEXURE-3

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IN THE MATTER OF:-

UNIVERSITY OF DELHI

APPLICANT

VS.

MINISTRY OF ENVIRONMENT, FOREST &
CLIMATE CHANGE & ORS.

RESPONDENTS

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Suneel Dave
SUNEEL DAVE

SCIENTIST -E

CENTRAL POLLUTION CONTROL BOARD
PARIVESH BHAWAN, EAST ARJUN NAGAR

DELHI-110032.

office of balendu@jme
Cam

9999666769

PLACE: DELHI

DATED: 09.08.2018

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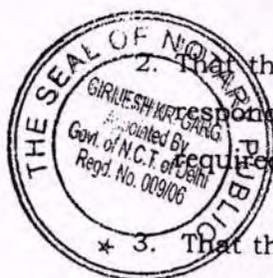
**BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI
Appeal. No. 112/2018**

IN THE MATTER OF:-**UNIVERSITY OF DELHI****APPLICANT****VS.****MINISTRY OF ENVIRONMENT, FOREST &
CLIMATE CHANGE & ORS.****RESPONDENTS**

**REPLY AFFIDAVIT ON BEHALF OF THE RESPONDENT NO. 07, CENTRAL
POLLUTION CONTROL BOARD, PARIVESH BHAWAN, EAST ARJUN NAGAR,
DELHI- 110 032.**

I, Suneel Dave S/o Shri Ram Das Dave, Scientist-E, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032, do hereby solemnly affirm and declare as under:

1. That I, in the capacity of Scientist-E, in the Central Pollution Control Board (herein after referred as CPCB), am fully conversant with the facts of the case and competent to swear this affidavit.



2. That the averment made in Para 1 & 2 of the Application is related to respondent no.2 and 4 and also the appellants, hence no comments required from this answering respondent no.7.

- * 3. That the averments made in para 3.1 to 3.9 of the Application are brief facts about petition in chronological order produced by the petitioner, hence no comments required from this answering respondent no.7.

4. That the averment made in Para 3.10 of the Application this answering respondent no.7 has no comments as it pertains to respondent no. 2 & 4.

5. That the averment made in Para 3.11 (I)(a)

6. That the averment made in Para 3.11(I)(b) & (c) of the Application, this answering respondent has following comments:

- As per Section 5(a) (3) of Noise Pollution (Regulation and Control) Rules, 2000, there are restriction on Sound emitting construction

equipments and it should not be used or operated during night time in residential areas and silence zones.

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7. That the averments made in para 3.11(II) of the Application this answering respondent no.7 has no comments.
 8. That the averments made in para 3.11(III) of the Application, this answering respondent no.7 agrees with the contention made in the para. However, this para pertains to DJB.
 9. That the averments made in para 3.11(IV) of the Application is related to Solid waste, this answering respondent no.7 has the following comments:
The site in question is proposed for construction of three 14-16 storied residential towers.

As per Rule 4(6) of the Solid Waste Management Rules, 2016, All resident welfare and market associations shall, within one year from the date of notification of these rules and in partnership with the local body ensure segregation of waste at source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorised recyclers. The bio-degradable waste shall be processed, treated and disposed off through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body.

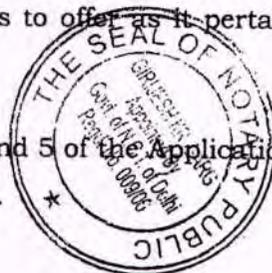
- (i) As per Rule 15 (b) of the Solid Waste Management Rules, 2016, The local authorities and Panchayats shall arrange for door to door collection of segregated solid waste from all households including slums and informal settlements, commercial, institutional and other non-residential premises. From multi-storage buildings, large commercial complexes, malls, housing complexes, etc. this may be collected from the entry gate or any other designated location. However, the averments made on STP related issue

- DPCC shall ensure that respondent no.4 shall install STP of adequate capacity and meet the consented parameters.
- DJB shall also ensure the connectivity of treated sewage to their sewerage network for proper disposal.

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10. That the averments made in para 3.11(V) of the Application, this answering respondent no. 7 has no comments as it pertains to respondent no.12.
11. That the averments made in para 3.11(VI) of the Application, this answering respondent no.7 has no comments as it pertains to respondent no.8.
12. That the averments made in para 3.11(VII) of the Application, this answering respondent no.7 has no comments to offer as it pertains to respondent no.5 and 6.
13. That the averments made in para 3.11(VIII) of the Application, this answering respondent no.7 has no comments to offer as it pertains to respondent no.2.
14. That the averments made in para 3.11(IX) of the Application, this answering Respondent no.7 has no comments.
15. That the averments made in para 3.12 of the Application, this answering respondent no.7 has no comments to offer as it pertains to respondent no.2.
16. That in reference to averments made in para 3.13 and 3.14 of the Application, this answering respondent no.7 has no comments to offer as it pertains to respondent no.2 and 4.
17. That the averments made in para 3.15 of the Application, this answering respondent no.7 has no comments to offer as it pertains to respondent No.6.
18. That the averment made para 4 and 5 of the Application, this answering respondent no.7 has no comments.



REPLY TO THE GROUNDS

19. That the averments made in para 6 (A) and (B) of the Application, this answering respondent no.7 has no comments to offer as it is related to respondent no.2 and 4.
20. That the averments made in para 6 (C) of the Application, this answering respondent no.7 has the following comments:

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As per section 5(a) (3) of Noise Pollution (Regulation and Control) Rules, 2000, there are restriction on Sound emitting construction equipments and it should not be used or operated during night time in residential areas and silence zones.

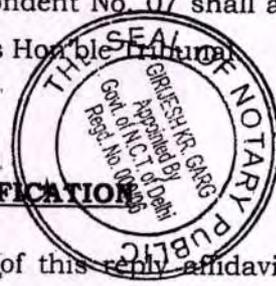
- 21. That the averments made in para 6(D) of the Application, this answering respondent no.7 has no comments.
- 22. That the averments made in para 6(E) of the Application, this answering respondent no.7 has no comments as it pertains to respondent no.2.
- 23. That the averments made in para 6(F) of the Application, this answering respondent no.7 has no comments as it pertains to respondent no.12.
- 24. That the averments made in para 6 (G) of the Application, this answering respondent no.7 has no comments as it pertains to respondent no.2 and 6.
- 25. That the averments made in para 6(H) TO (V) of the Application, this answering respondent no.7 has no comments as it pertains to respondent no.2.

PRAYER

In view of the above facts indicated in earlier paras, it is respectfully prayed that the Hon'ble Tribunal may pass any order or direction. However, this answering Respondent No. 07 shall abide by any order or directions, passed by this Hon'ble Tribunal.

VERIFICATION

It is verified that the content of this reply affidavit which is based on official record and information available in the office are true and correct. Nothing has been concealed therein. Verified on this day 0 AUG of 2018 at Delhi.



[Signature]
DEPONENT

ATTESTED
NOTARY PUBLIC
Govt. of N.C.T., DELHI

[Signature]
DEPONENT

10 AUG 2018

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**BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI
Appeal. NO. 112 OF 2018**

IN THE MATTER OF:

University of Delhi

... Applicants

MOEF & CC R. DYS-

VERSUS

... Respondents

PROOF OF SERVICE

| S.No. | PARTY DETAILS RECEIVING (BY HAND, BY POST, BY E-MAIL) | RECEIVING |
|-------|---|-----------|
| 1. | Applicant | |
| 2. | Respondent No. 1 | |
| 3. | Respondent No. 2 | |
| 5. | Respondent No. 4 | By email |
| 6. | Respondent No. 5 | |
| 7. | Respondent No. 6 | |
| 8. | Respondent No. 7 | |
| 9. | Respondent No. 8 | |
| 10. | Respondent No. 9 | |
| 11. | Respondent No. 10 | |
| 12. | Respondent No. 11 | |

ANNEXURE-31

* IN THE HIGH COURT OF DELHI AT NEW DELHI **350**

% Date of decision: 20th January, 2016.

+ W.P.(C) 1476/2014

VIKAS SINGH

..... **Petitioner**

Through: Mr. A.S. Chandhiok, Sr. Adv. with
Mr. Deepeika Kalia and Ms. Mallika
Ahluwalia, Advs.

Versus

LIEUTENANT GOVERNOR AND ORS

..... **Respondents**

Through: Mr. Sanjeev Narula and Mr. Ajay
Kalra, Advs. for UOI.
Mr. Arjun Pant, Adv. for DDA with
Mr. S.B. Khorankar, Director
(Planning) & Mr. Uttam Gupta, Addl.
Director (Planning).
Mr. Anshumaan Bahadur, Adv. for
Mr. Gaurang Kanth, Adv. For R-
5/SDMC.

CORAM:

HON'BLE THE CHIEF JUSTICE

HON'BLE MR. JUSTICE RAJIV SAHAI ENDLAW

RAJIV SAHAI ENDLAW, J.

1. On 29th September, 2014, after completion of pleadings and finally hearing the counsels for the then parties, we passed the following order in this petition:

"1. This petition is filed impugning Rule 27(2) of the Delhi Fire Service Rules, 2010 on the ground of the same being not in consonance with the amendment vide Notification dated 23rd

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September, 2013 of the Master Plan for Delhi (MPD)-2021. The petition consequently seeks a direction to the South Delhi Municipal Corporation (SDMC) impleaded as respondent No.5, to approve the revised plan of construction of house No.C-319, Defence Colony, New Delhi of the petitioner.

2. The petition came up first before this Court on 7th March, 2014 when the counsel for the respondents No.1 to 3 i.e. Lieutenant Governor, Delhi, Govt. of NCT of Delhi (GNCTD) and Director, Delhi Fire Service (DFS), GNCTD appearing on advance notice was directed to file an affidavit indicating the position with regard to fire safety clearance of buildings up to 15 metres in height and beyond 15 metres in height. It was further directed that the said affidavit shall also indicate, as to whether there is need for changing the cap of 15 metres as stipulated in Rule 27(2) supra, on account of change in the Master Plan whereby the maximum height for residential buildings with stilt parking has been increased to 17.5 metres from the erstwhile limit of 15 metres.

3. In compliance therewith, an affidavit dated 4th April, 2014 of the Chief Fire Officer, DFS, New Delhi has been filed.

4. We have heard the senior counsel for the petitioner and the counsel for the respondents No.1 to 3.

5. Having heard the writ petition finally, CM No.3085/2014 filed therewith for interim relief has become infructuous and is disposed of.

6. The senior counsel for the petitioner:

(a) has drawn our attention to Delhi Building Bye-Laws 1983,

(i) Bye-law 2.1 whereof defines "Act" as the Delhi Development Act, 1957;

(ii) Bye-law 2.51 whereof defines "Master Plan" as the Master Plan for Delhi approved by the Central Government under the Delhi Development Act, 1957 and the amendments made from time to time;

(iii) Bye-law 2.02 whereof provides that the words and expressions not defined in the Bye-laws shall have the same meaning or sense as in the Delhi Municipal Corporation Act, 1957, Delhi Development Act and the Master Plan for Delhi;

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- (iv) Bye-law 2.03 whereof provides that all mandatory Master Plan / Zonal Plan regulations regarding coverage, floor area ratio, use, set-backs, open spaces, height, number of storeys, number of dwelling units, parking standards etc. for various categories of buildings including modifications thereof made from time to time shall be applicable mutatis mutandis in the building regulations and that all amendments / modifications made in the building regulations will automatically be included as part of the Bye-laws;
- (v) Bye-law 2.36 whereof defines "Floor Area Ratio (FAR)" as the quotient obtained by dividing the total covered area (plinth area) on all floors multiplied by 100 by the area of the plot;
- (vi) Bye-law 2.58 whereof defines "Parking Space" as an area enclosed or unenclosed, covered or open, sufficient in size to park vehicles, together with a driveway connecting the parking space with a street or alley and permitting ingress and egress of the vehicles;
- (vii) Bye-law 3.1 whereof provides that in addition to the provision of the Delhi Development Act, the Building Bye-laws shall apply to the building regulation activity, in the Union Territory of Delhi under the jurisdiction of the Delhi Development Authority (DDA);
- (viii) Appendix J whereof containing 'Relevant Extracts from MPD-2021 regarding Development Control Regulations' provides the maximum height of constructions of residential plotted development, of 15 metres and further provides that if the building is constructed with stilt area of non-habitable height (less than 2.4 metres), used for parking, such stilt area shall not be included in FAR but would be counted towards the height of the building;
- (b) has drawn our attention to the Notification dated 4th March, 2014 of the Ministry of Urban Development (Delhi Division) issued in exercise of powers conferred by Section 11-A(2) of the Delhi Development Act making modifications in the MPD-2021 and whereby the definition of High Rise Buildings in Clause 8(7) of Chapter 17 titled 'Development Code' of the Master Plan has been changed to "Buildings taller than 15

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metres (without stilt) and 17.5 metres (including stilt) in all use zones will be considered as High Rise Buildings” and further providing that in case of stack-parking in stilt floor, minimum height of 2.4 metres for stilt floor may be relaxed;

(c) has drawn our attention to Bye-law 6.2.4.1 of the Building Bye-laws aforesaid relating to ‘Building Plans for Multistoreyed / Special Buildings which are more than 15 metres in height and has argued that the same is by way of an exception to Bye-law 6.2.4 dealing with ‘Building Plan’ for plots measuring up to 250 sq.m. and above 250 sq.m. and has demonstrated that the building plan for such multistoreyed / special buildings has to show inter alia the location and size of fire lift, smoke exhauster system, access to fire appliances / vehicles with details of vehicular turning circle and clear motorable access way around the building etc.;

(d) has argued:

(I) that the petitioner on 15th July, 2013 got the plan for construction on property No.C-319, Defence Colony, New Delhi sanctioned from the Municipal Corporation of Delhi (MCD);

(II) that at the time of sanction of plan, the height of the building permissible under the Bye-laws was 15 metres which included the stilt which had been made mandatory;

(III) that upon amendment of the Master Plan vide Notification dated 23rd September, 2013 published on 21st October, 2013, maximum height of the building was prescribed as 15 metres in plot without stilt parking and 17.5 metres in plot with stilt parking and further providing that such buildings were not to be considered as high rise buildings “for the purpose of fire and life safety requirements, clearance of Fire Department will be obtained by the individual plot owner”;

(IV) that by the time, the petitioner came to know about the aforesaid amendment, he had already casted stilt as well as the ground and the first floors and the only second and third floor roof casting remained;

(V) that in order to take advantage of the amended Master Plan, the petitioner got a revised plan made by providing two feet extra on the second and third floors, thus taking the height of the entire building to 16.16 metres, that is, well below the 17.5

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- metres provided in the amended Master Plan;*
- (VI) that since the amended Master Plan provided for taking clearance of the Fire Department, the petitioner applied on 3rd January, 2014 and on 20th January, 2014 submitted revised building plans to the SDMC indicating therein that the petitioner shall be increasing the height of the second and third floors by two feet each to take the total height to 16.16 metres;*
- (VII) that on 22nd January, 2014, the MCD referred the file to the Fire Department, GNCTD;*
- (e) has invited attention to the Delhi Fire Service Act (DFSA), 2007 and has contended:*
- (i) that there is no provision therein for compliance of the provisions contained therein by residential buildings;*
- (ii) that though Section 25 thereof empowers the GNCTD to by notification in the official gazette declare any class of occupancy and pandal which are likely to cause a risk of fire but the GNCTD has not issued any notification;*
- (iii) that Section 32 thereof requires only the 'multistoreyed buildings' to be governed by the provisions for the fire prevention and fire safety measures stipulated therein;*
- (iv) that the said measures are contained in the Delhi Fire Service Rules supra;*
- (f) has invited attention to Rule 27 of the Rules supra listing the classes of occupancies to be construed as likely to cause a risk of fire and serial No.2 whereof contains residential buildings (other than hotels and guest houses) having height more than 15 metres or having ground plus four upper storeys including mezzanine floor;*
- (g) has contended,*
- (I) that once the Master Plan has changed the maximum height of residential building from 15 metres to 17.5 metres and which change as per the provisions aforesaid of the Building Bye-laws stands incorporated in the Building Bye-laws also, the rules cannot be permitted to continue classifying residential buildings of more than 15 metres but less than 17.5 metres height as posing risk of fire;*
- (II) that rules aforesaid cannot be contrary to and have to be subservient to the Central Government legislation;*

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- (III) that even otherwise Section 25 of the DFSA entitles the Government to declare only a class of occupancy, as likely to cause a risk of fire and not by height;
- (IV) that the rule aforesaid is arbitrary per se and the height of 15 metres contained therein, after the amendment of the Master Plan and the consequent amendment of the Building Bye-laws will have to be read as 17.5 metres;
- (V) that the GNCTD, post the amendment of the Master Plan and the Building Bye-laws, ought to have amended the Rules but has failed to do so;
- (VI) that even the Development Code was amended on 4th March, 2014 in consonance with the amendments to the Master Plan;
- (VII) that the height of the occupancy, even after the amendment aforesaid, remains 15 metres only and only to deal with the paucity of parking in streets in front of residential houses and to provide for parking, stilt floor in each residential building has been made compulsory;
- (VIII) that the rules aforesaid framed by the GNCTD cannot have priority over the Master Plan or Building Bye-laws;
- (IX) that to hold that a residential building of more than 15 metres but less than 17.5 metres height becomes a multi-storeyed building or a high rise building, would be absurd inasmuch as the plot size of such building does not admit of a provision being made for two staircases, or providing for movement of a fire brigade all around the building and to hold so would also be contrary to the layout plan of the building prescribing front and rear set-backs only;
- (X) that the Supreme Court in para 66 of **Delhi Bar Association (Regd.) Vs. Union of India** (2008) 13 SCC 628 has held that law framed by the GNCTD if repugnant to central law, would be void.
7. The respondent Nos.1 to 3 in their affidavit aforesaid have pleaded:
- (A) that under Rule 33 of the Rules supra, the minimum standards for fire prevention and fire safety of buildings as may be applicable with reference to the height of the buildings and class of occupancy are required to be provided in the Building

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Bye-laws or National Building Code of India, 2005 relating to the matters specified therein;

(B) that no fire protection requirement for one or two family private dwellings have been prescribed in the Code aforesaid for buildings up to 15 metres in height and such buildings do not require clearance from the DFS;

(C) that residential buildings meant for three or more families living independently are classified as apartment houses (flats) and the minimum standards for fire fighting installations for such buildings have been specified with respect to height of building; there is no height restriction for such residential buildings;

(D) that from fire ground operation point of view, the building beyond 15 metres in height, irrespective of the type of occupancy, pose different challenges in rescue and fire fighting operations; floors above 15 metres are beyond the reach of the non-self supported ladders (portable manual ladders) and require operation of hydraulic platforms (aerial ladders) for fire fighting and rescue purposes necessitating 6 metres motorable road around the building;

(E) that new building above 15 metres in height devoid of the fire and life safety measures is a risky proposition for the occupants of the buildings, the neighbours and also for the fire fighters in the event of an outbreak of fire.

8. The counsel for the respondents No.1 to 3 during the hearing handed over a copy of the minutes of the meeting of the DDA held on 9th May, 2014 to demonstrate that in view of the stand of the Director, Delhi Fire Service that buildings with height of more than 15 metres pose many challenges in ensuring fire safety and that the existing basic requirements should not be relaxed till a comprehensive review exercise is undertaken on fire safety measures and the extant provisions of the Bye-laws, Code and Rules supra, the proposal for increase of height of residential building developed by DDA to 17.5 metres, was not approved. He has further handed over a copy of the plan for construction got sanctioned by the petitioner to show that the same comprises of four dwelling units, it is contended that the construction for this reason also requires fire clearance. It was

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further, with reference to Articles 246, 243(W) read with the XII Schedule (Item No.7 titled Fire Service) and Articles 254 and 256 of the Constitution of India, contended that to provide for fire services is a State subject and the Parliament is not competent to enact law with respect thereto. It is yet further argued that DFSA has been notified after the assent of the President of India. The judgment supra relied upon by the senior counsel for the petitioner is distinguished by contending that the subject therein pertained to Union List and the Concurrent List and it was for this reason that the GNCTD Law repugnant to the Central Law was held to be void. Reliance is placed on **Ms. Geetika Panwar Vs. Government of N.C.T. of Delhi** AIR 2003 Delhi 317.

9. The senior counsel for the petitioner in rejoinder has argued that the National Building Code relied upon by the respondents is merely recommendatory in nature and to demonstrate so, a copy of the counter affidavit verified in April, 2006 filed by the Civil Engineering Department of the Bureau of Indian Standards in Civil Writ Petition No.1042/2006 titled **Council of Architecture Vs. Union of India** of this Court stating that the said Code acts only as a guide and does not have a binding effect as that of a Statute, was handed over in the Court.

10. The counsel for the respondents No.1 to 3 has responded by handing over the Notification dated 27th February, 2009 of Ministry of Urban Development (Delhi Division) making modifications to the Building Bye-laws inter alia providing in Clause 17.1 therein that the building shall be planned, designed and constructed to ensure fire safety in accordance with Part IV Fire Protection of National Building Code of India and that in case of buildings identified by Bye-laws 6.2.4.1, the building scheme will also be cleared by the Chief Fire Officer, Delhi Fire Service and has contended that the Code thus had statutory force. Attention in this regard is also invited to Rule 33 of the Rules supra providing that the minimum standards for fire prevention and fire safety shall be as are provided in the Building Bye-laws or the National Building Code of India, 2005.

11. The counsel for the respondent No.4 DDA merely stated that the Notification dated 4th March, 2014 supra was to take care of the stilt parking having been made compulsory of

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residential buildings.

12. The senior counsel for the petitioner further contended that Delhi is not a State. Attention in this regard was invited to Section 239-AA(3)(a) as well as to Entry 18 "land, that is to say, right in or over land, land tenures including the relation of landlord and tenant, and the collection of rents; transfer and alienation of agricultural land; land improvement and agricultural loans; colonization" of List II of the VII Schedule to the Constitution and it was argued that Delhi Fire Service is not a municipality. Attention was also invited to Paras 118 to 120, 123, 127, 130, 132, 135 and 141 of **Delhi High Court Bar Association v. GNCTD** 203 (2013) DLT 129 (DB).

13. We had during the hearing enquired from the counsel for the respondents No.1, as to how an increase in height of residential building from 15 metres to 17.5 metres changed the position viz.-a-viz. fire safety and fire prevention.

14. The Chief Fire Officer present in Court explained that floors above 15 metres could not be reached by a manual ladder, keeping in mind the incline at which the ladder is required to be placed alongside the building. He also explained that in the event of an incident of fire in buildings more than 15 metres of height, induction of air from outside makes the fire spread very fast.

15. The senior counsel for the petitioner intervenes to state that the floor of the top storey, even in the case of height of the residential building being more than 15 metres would be much less than 15 metres and thus can be reached with a manual ladder and the reason given by the Chief Fire Officer is not correct.

16. The Chief Fire Officer explained that the fire operations cannot be carried out from the top step of the manual ladder and for the fireman to reach the top floor with a manual ladder, the same has to rise much above the floor to be reached.

17. We have considered the rival contentions.

18. Though undoubtedly, there is a repugnancy between the Master Plan and the Building Bye-laws as amended in 2013, on the one hand and in the Fire Service Rules on the other hand but considering the fact that the question raised entails protection of

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life, we are of the view that the matter be not resolved on the basis of legalese. Even if we were to allow the writ petition, the fact of the matter remains that the effect thereof would be on the lives and safety of the inhabitants of such buildings, in the event of an incident of fire therein. It prima facie appears that while making stilt parking mandatory and amending the MPD-2021 and consequently the Building Bye-laws and thereby permitting the maximum height of residential buildings to be raised from 15 metres to 17.5 metres, this aspect has escaped attention.

19. We find that the Union of India has not been impleaded as a party to the petition. We, in the circumstances aforesaid, are of the view that Union of India is a necessary party and we would in any case like the assistance of the learned Additional Solicitor General (ASG) in the matter.

20. We accordingly implead Union of India as respondent No.6 to the writ petition. Amended memo of parties be filed within three weeks.

21. Mr. Sanjeev Narula, Advocate on behalf of Union of India has accepted notice. A copy of the entire paper book including a copy of this order be handed over to him. Counter affidavit be positively filed within three weeks.

22. Considering the fact that the outcome of this petition may have an impact on the construction already underway by the petitioner as well as on a large number of other residential buildings in the city, we also implore upon the Secretary, Ministry of Urban Development (Delhi Division) to in the interregnum, if considers necessary to resolve the controversy aforesaid, immediately call for a joint meeting of all the concerned persons particularly from the Delhi Fire Services, so that a consensual decision in the interest of the residents of the city can be evolved.

23. An additional affidavit filed by the petitioner is taken on record. It is brought to our notice by Mr. A.S. Chandhiok, learned senior counsel appearing for the petitioner that the revised Building Plan submitted by the petitioner has been rejected by a letter dated 17th September, 2014 issued by SDMC, on the ground that the petitioner has not complied with the shortcomings as observed by the DFS.

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24. *Since the question as to whether the compliance with the provisions of the Delhi Fire Service Rules, 2010 shall be made applicable to the buildings which are constructed in conformity with the Building Bye-Laws as amended in 2013 is the issue which is still required to be considered by this Court in the main petition itself, the respondent is directed not to take any coercive steps on the basis of the letter dated 17th September, 2014 of SDMC until further orders.*

25. *We also draw the attention of counsels to Section 2(s) of the Delhi Apartment Ownership Act, 1986, defining a multi-storeyed building as a building containing "four" or more apartments and call upon them to examine in the context thereof also.*

26. *List on 3rd November, 2014."*

2. Thereafter, from time to time the matter was adjourned on the ground that steps were being taken by Secretary, Ministry of Urban Development (Delhi Division) to resolve the controversy. It was else the stand of the Ministry of Urban Development, Govt. of India in the affidavit dated 15th November, 2014 filed immediately after being impleaded as a party that in the meeting held on 30th October, 2014 it had been decided that modification should be carried out in National Building Code (NBC) to align it with the Master Plan for Delhi 2021 (MPD-2021) regarding provisions for building height and it was also directed that Delhi Development Authority (DDA), in consultation with Delhi Fire Department, should formulate a proposal containing the changes that would be required in NBC and submit the same to the Bureau of Indian Standards (BIS) so that NBC can be revised to be

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consistent with MPD-2021.

3. However, in the subsequent affidavit dated 22nd April, 2015, it has been stated:

(i) that the Vice Chairman, DDA informed that in the meeting with the Delhi Fire Department it emerged that once we increase the height of building from 15.0 to 17.5 (m) with stilt, then such buildings would have to be excluded from the purview of “high rise buildings” and in that case no permission would be required from the Delhi Fire Service (DFS), meaning thereby that no ‘No Objection Certificate’ (NOC) from the Fire Department is needed in such cases and the whole onus of fire safety will be on the Building Plan Sanctioning Authority and that the Fire Department does not have adequate number of fire fighting equipment/vehicles for building above 15 meters height, if no setbacks are available in those plots;

(ii) that from MPD-2021 provision 4.4.3(A)(iii), it is clear that buildings taller than 15 meters are not exempt from seeking clearance from Fire Department; further, as the buildings have to comply with Part IV Fire Protection of NBC, as stipulated in Building Bye-law 17.1, it is clear that MPD-2021 provisions read with Building Bye-law

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- provisions do not exempt the buildings from the mandatory requirements of setbacks, access etc.;
- (iii) that if all the storeys are constructed as per the requirements of Para 12.2.1 of Part III of NBC regarding the height of habitable rooms i.e. with a height of rooms as 2.75 meters, then the entire available FAR in each category of residential plot size can be achieved within the height of 15 meters, even after including stilt of 2.4 meters height for parking and adequate slab heights between all the floors and on the roof;
- (iv) thus the maximum FAR for all plot sizes can be achieved within 15 meters without sacrificing either the stilt or any floor;
- (v) thus as per the various provisions of MPD-2021, Building Bye-laws and NBC, by not considering residential buildings upto 17.5 meters with stilt “as high rise buildings”, such buildings are nowhere exempted from the mandatory fire protection requirements related to the setbacks, access, alternate stairs etc.;
- (vi) that the safety of human life is paramount and all the provisions regarding development control norms and other requirements for buildings should be followed invariably;

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- (vii) that as regards fire safety requirements, DFS is the competent body to attend exigencies in case of fire;
- (viii) that as per Rule 27(2) of Delhi Fire Service Rules, 2010, residential buildings having height more than 15 meters or having ground plus four upper storeys, including mezzanine floor are likely to cause a risk of fire;
- (ix) that as the proposed building of the petitioner is 16 meters tall as per the plan, therefore DFS has considered it as multi-storeyed building for the purpose of fire and life safety;
- (x) that under Section 3(s) of the Delhi Apartment Ownership Act, 1986, a building containing four or more apartments in a multi-storey building; that from the Building Plan of the property of the petitioner, it is clear that there are four dwelling units in the proposed building of the petitioner and therefore this building would be construed as a multi-storeyed building as per the above provisions;
- (xi) that there is no repugnancy between various provisions of MPD-2021, Building Bye-laws and NBC.

4. The counsel for the respondent Union of India (UOI) has argued on the same lines.

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5. The senior counsel for the petitioner has contended (and has also filed written submissions):

(a) that this Court has already in order dated 29th September, 2014 found repugnancy between MPD-2021 and the NBC and between the MPD-2021 and DFS Rules;

(b) that Clause 2.03 of the Building Bye-laws *inter alia* provides that all mandatory Master Plan / Zonal Plan regulations regarding coverage, FAR, use, setbacks, open spaces, height, number of storeys, number of dwelling units, parking standards etc. for various categories of buildings including modifications therein made from time to time shall be applicable *mutatis mutandis* in the building regulations; thus the Building Bye-laws automatically stood amended along with the MPD-2021;

(c) that Clause 17 of the Building Bye-laws relied upon by the respondent UOI requires only a building identified in Bye-law 6.2.4.1 to be cleared by the Chief Fire Officer;

(d) that Building Bye-law 6.2.4.1 refers to multi-storeyed buildings which are more than 15 meters of height; however as per MPD-2021, buildings upto 17.5 meters height are not multi-storeyed buildings;

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- (e) that four floors can be constructed after providing for stilt in a building with a total height of 15 meters can be no ground to justify the invocation of the Fire Department to buildings beyond 15 meters height as because the effective height available in each floor in a building having four floors with a total height of 15 meters is hardly eight feet and is not the proper height recommended for a regular floor;
- (f) that the 2010 amendment of MPD-2021 clearly means to exclude residential buildings from the regulatory purview of Fire Department;
- (g) that if the Master Plan has decided to increase the height from 15 meters to 17.5 meters qua houses having stilt, then a consequential amendment had to be made to Rule 27 of the Delhi Fire Service Rules;
- (h) lastly, without prejudice to the other contentions, it is argued that since the petitioner could not have withheld the construction of his property pending the resolution supra, even in the event of the petition being dismissed, the construction already carried out by the petitioner be regularised.

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6. The counsel for the respondent UOI responded that any finding / observation in the earlier order dated 29th September, 2014 till when UOI was not even a party to the petition, cannot bind the UOI and there is thus no merit in the contention of the senior counsel for the petitioner that the plea of UOI, of there being no repugnancy between MPD-2021 and the Building Bye-laws, being contrary to the findings of this Court in the order dated 29th September, 2014.

7. We have considered the rival contentions but do not feel the need to deal therewith being of the view that this is a fit case for invoking the principle that a writ Court, even if finds the petitioner entitled to relief in law, may refuse, if in the totality of circumstances finds interference to be not required in public interest or to do substantial justice. Reference if any required can be made to *Chandra Singh Vs. State of Rajasthan* (2003) 6 SCC 545 and *Taherakhatoon Vs. Salambin Mohammad* (1999) 2 SCC 635.

8. We are here faced with a situation where there indeed are two versions as to the maximum height of residential houses on the plot size with which this petition is concerned. One provides for maximum height of 17.5 meters and the other for maximum height of 15 meters. The version / view of the authority i.e. the South Delhi Municipal Corporation (SDMC), without the

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sanction whereof construction cannot be commenced / raised, is that the maximum height permissible is 15 meters and the plans sanctioned of the property of the petitioner are also for the said height. The petitioner desires to avail of the height provided for in the other version i.e. in the MPD-2021. However, even if we were to find that the maximum height under the Building Bye-laws and in accordance wherewith construction plans are sanctioned by SDMC should be in consonance with the provisions of MPD-2021 i.e. provide for maximum height of 17.5 meters, the unequivocal stand of Delhi Fire Service (DFS) is that in the event of occurrence of fire in a house with a maximum height of 17.5 meters, DFS would be unable to fight fire. Thus, permitting construction of houses with such increased height would result in a situation, where such houses would be without protective umbrella of DFS. Though the senior counsel for the petitioner contended that DFS should get wherewithal for fighting fire in houses of such height but we cannot shut our eyes to the reality, of the DFS presently being not equipped to fight incidents of fire in houses of such height. We are also satisfied with the explanation rendered by the Chief Fire Officer who had appeared before us, of the near impossibility of fighting fires in houses of such height, situated in residential colonies internal roads whereof do not even permit a

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fire brigade to reach the houses and the resultant need to fight accidents of fire therein with manual ladders. We cannot, for the sake of letter of law, expose the citizenry of Delhi who will occupy the said houses with increased height, to the hazards of fire. Nothing can be more fundamental than the issue of public safety and the right to life. No amount of errors, even if any in law, can justify a correction therein by constitution court where such correction will lead to a situation where a large number of people are permitted to reside in houses which are unsafe. It cannot be lost sight of that a house violative of fire safety norms and incident of fire wherein cannot be controlled, poses a danger, not only to the occupants thereof but also to the occupants of neighbouring/adjoining properties. Public safety is certainly a factor owing whereto this Court would be entitled to not grant the relief claimed in this petition, even if a case of inconsistency as aforesaid between the Master Plan and the Building Bye-laws were to be found in favour of the petitioner.

9. Supreme Court in *Usman Gani J. Khatri of Bombay Vs. Cantonment Board* (1992) 3 SCC 455 held that the slogan of the builders and land owners of utilising the maximum area for construction should always be subservient to the building restrictions and regulations made in the larger

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interest of the whole inhabitants of the city, environment hazards, sanitation, provision for supply of water, electricity and other amenities. In *State of West Bengal Vs. Terra Firma Investment and Trading Pvt. Ltd.* (1995) 1 SCC 125, on finding that the reason for restricting the height of buildings to be limited resources for civic amenities, the Supreme Court negated even the claim based on a vested right. Similarly in *Howrah Municipal Corpn. Vs. Ganges Rope Co. Ltd.* (2004) 1 SCC 663, it was held that the considerations of regulatory provisions for construction activities are public interest and convenience and on the subject of seeking sanction for construction, no vested right can be claimed by any citizen divorced from public interest or public convenience. It was held that a right for sanction is not a right in relation to “ownership or possession of any property” for which the expression 'vest' is generally used. It was similarly held that there can be no legitimate or settled expectation in this regard and that the legitimate and settled expectation or the vested right is countenanced by public interest and public convenience. It was yet further held that in the matter of sanction of buildings for construction and restricting their height, the paramount consideration is public interest and convenience and not the interest of a particular person. Again in *Friends Colony Development Committee Vs.*

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State of Orissa (2004) 8 SCC 733, it was observed that for the reason that private owners are to some extent prevented from making the most profitable use of their property, the regulations made in public interest cannot be challenged as the power to plan development of city and to regulate the building activity therein flows from the police power of the state and the exercise of such governmental power is justified on account of it being reasonably necessary for the public health, safety, morals or general welfare and ecological considerations. Similarly, in *In Re: News Item Published in Hindustan Times titled "And Quit Flow Maily Yamuna"* 2004 (9) SCC 569 it was held that the increase of FAR and increased density without corresponding increase in provision of services like water, power, circulation, parks etc. would lead to making urban areas in Delhi uninhabitable and lead to ecological degradation and urban degeneration. Hence, upgradation of services was considered essential before any relaxation in bye-laws could be considered.

10. Following the above, in *Commissioner of Municipal Corporation, Shimla Vs. Prem Lata Sood* (2007) 11 SCC 40, the challenge to the special regulations framed to protect the core area of the town of Shimla was dismissed observing that the construction would violate the ecology and the

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regulation having been framed in public interest must override private interest.

11. A Division Bench of this Court in *Dr. B.L. Wadhera Vs. Govt. of NCT of Delhi* (2003) 105 DLT 1 in the context of fire safety to be provided in high rise buildings held that fundamental rights are placed beyond the reach of ordinary legislations and directed the authorities not to supply essential services unless and until the building is compliant with fire safety requirements. Full Bench of this Court in *Joginder Kumar Singla Vs. Government of N.C.T. of Delhi* AIR 2005 Delhi 258, dealing with a petition seeking directions to the authorities not to issue any drug licence for sale and manufacture of drugs in a residential premises, held that building regulations are with a view to achieve larger purpose of public health, safety and general welfare and for the benefit of the public at large and for providing a civilized society. It was further held that exercise of power under Article 226 of the Constitution is extraordinary remedy and it is open to the Court, in exercise of such power, to make such order as public dictates and equity projects.

12. A Division Bench of this Court in *Municipal Corporation of Delhi through its Commissioner Vs. Holistic Farms Pvt. Ltd.* 169 (2010) DLT 637 (DB) concerned with the amendment to the Master Plan of Delhi

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increasing the maximum coverage and height of dwelling units without any corresponding change in the Building Bye-laws, held that till the Building Bye-laws are amended, construction could not be commenced on the basis of conditional sanction of Building Plans and even if it was deemed that the Building Bye-laws were suitably amended on the amendment of the Master Plan for Delhi, the legal position would not change to the advantage of the land owner who could not have commenced construction without unconditional sanction of the Building Plans. Reliance was placed on *Commissioner of Municipal Corporation, Shimla Vs. Prem Lata Sood* supra laying down that where a statute provides for a right, but enforcement thereof is in several stages, unless and until the conditions precedent laid down are satisfied, no right can be said to have been vested in the person concerned. Similarly, another Division Bench in *Dev Raj Gupta Vs. New Delhi Municipal Committee* 68 (1997) DLT 62 held that since the laws relating to planned development of any township and the municipal laws are meant for the public good, they apply on the dates on which they are brought into force and even the pending applications must be decided in accordance with law as applicable on the date on which the decision is to be taken. Accordingly, the contention that mere making of an application seeking

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sanction of the Building Plans gives any vested right to the petitioner was rejected.

13. A Division Bench of the High Court of Bombay in *Joseph Bain D'Souza Vs. State of Maharashtra* MANU/MH/0778/2005 dealing with a challenge to the provisions of the Development Control Regulations of the city of Mumbai allowing incentives in the form of additional floor space observed that urban environment of Mumbai is perched upon a precipice, one where the dividing line between existence and destruction is so tenuous as to leave an observer to question whether it exists. It was held that every urban disaster is a grim reminder of the many more waiting to happen unless lessons are learnt and corrective measures taken. Finding that the urban infrastructure was not enough for the incentive in the form of additional floor granted, the Court interfered therewith.

14. In this view of the matter alone, we opt to, without rendering any finding in law, dismiss this petition.

15. The petitioner in his affidavit dated 29th September, 2014 has stated (i) that though he had submitted revised plans with increased height but the same were rejected; (ii) that since his construction was held up, the petitioner proceeded to raise construction and the total height of his building is now 16

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meters. The petitioner seeks regularisation thereof.

16. We have considered the said plea also. All that we can observe is that there was / is an inconsistency and petitioner cannot be said to be unjustified in preferring this petition. In fact, we also in our order dated 29th September, 2014 had found repugnancy but notwithstanding the same, since UOI was not a party, desired to hear UOI. UOI itself being of the view that there is inconsistency attempted to have the same removed but only when the reality has unveiled itself, has taken a stand as in the affidavit filed subsequently.

17. In these circumstances, though we have dismissed the petition, we state that the petitioner will be entitled to apply for regularisation of his construction and such regularisation vis-a-vis height shall be considered sympathetically. We say so because the Supreme Court in *N.D.M.C. Vs. Statesman Ltd.* AIR 1990 SC 383 has held while clearance by Chief Fire Office is an indispensable condition for eligibility of sanction, such clearance by itself is neither conclusive nor binding on the Municipal Authority and is not a limitation on the Municipal Authority to satisfy itself that the building plans provide for adequate fire safety precaution in accordance with bye-laws or in a better measure. Applying such ratio, we are of the view that if the petitioner satisfies the SDMC that the construction of his house/building

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is otherwise in consonance with the sanctioned plans and the petitioner has taken sufficient measures for fire safety and/or takes such further measures to notwithstanding the increased height make his house/building fire safe, the construction does not remain unauthorized. This however would be subject to the condition that the petitioner, in the unlikely event of fire in his house, shall not make any complaint vis-a-vis the remedial/curative measure taken by the DFS.

No costs.

RAJIV SAHAI ENDLAW, J.

CHIEF JUSTICE

JANUARY 20th, 2016
'bs'..

ANNEXURE-32

GOVERNMENT OF NATIONAL CAPITAL TERRITORY OF DELHI
HEAD QUARTERS: DELHI FIRE SERVICE: NEW DELHI - 110 001

No. F. 6. / DFS / MS / BP / 2017/ 270

Dated: 02.09.17

To,

Executive Engineer
 Office Of the Executive Engineer
 Civic Centre , New Delhi

Sub: Clearance of building plans in r/o Group housing at plot no. 1,3 Cavalry Lane & 4 Chhatra Marg, Near Vishwadyalya Metro Station, New Delhi .

Sir,

Please refer to online building plan vide request ID 10040895 on the above cited subject. In this connection, it is to inform you that the building plans in respect of proposed residential group housing have been scrutinized by this department from fire safety point of view and observed that there is a proposal of revised building plans for construction of residential blocks at plot no. 1,3 Cavalry Lane & 4 Chhatra Marg, near Vishwadyalya Metro Station , New Delhi on a plot area of 20,000 SQM. The plot abuts on 24 meter wide road and the premise is approachable by 06 meter wide main gate. All around 09 meter wide with 12 meter turning radius motorable road for fire tender movement is proposed to be provided all around the high rise building. Two level basement beneath all the blocks is proposed in the complex. The detail of each block is as under:

| Sr. No. | Description of block | Compo sition of block | No. & size of staircases in each block | No. of lifts in each block | Height (M) | Ground Covered area (SQM) |
|---------|------------------------------------|-----------------------|--|----------------------------|------------|---------------------------|
| 1. | Tower B (2DU per floor) | G+38 | 2 of 1.35 m each | 4 | 130.60 | 373.19 |
| 2. | Tower C(2DU per floor) | G+37 | 2 of 1.35 m each | 4 | 127.30 | 373.19 |
| 3. | Tower D (4DU per floor) | G+34 | 2 of 1.35m each & 01 of 2m from 2nd to 3rd floor | 4 | 120.70 | 638.15 |
| 4. | EWS (incl. Shop at ground floor) | G+19 | 2 of 1.35m each | 6 | 71.20 | 497.07 |
| 5. | Basement | 2 level | 10 & 1.35 m and 1 ramp of 7.2 m | 26 | -- | 15870.13 at each level |

Community facilities are proposed at 2nd & 3rd floor under tower D & Shops are proposed at ground level of EWS tower. Parking is proposed in the basements and at ground & first floor below podium level. Ramp of 7.2 to 09 meter wide is also proposed in the building.

A common underground fire water tank of 4,00,000 litre capacity and fire pump house having one electric driven pump of 2850 LPM capacity at 190 meter head for hydrant network, 01 electric pump of 2850 LPM capacity at 190 meter head for sprinkler system , two jockey pump of 180 LPM capacity each , one

Plot no 1,3 Cavalry lane and 4 chhatra marg civil lines Delhi 07

Authority Ref. No.

online
 of fire safety directives.
 are given below:
 and 4 chhatra marg Civil lines

basement. A system of fresh air supply shall be provided at floor level and smoke outlet at ceiling level. Following points shall be ensured.

- a. All ducting shall be constructed of substantial gauge metal conforming to IS: 655. Air duct serving main floor areas, corridors etc. shall not pass through the staircases enclosures.
 - b. Automatic fire dampers shall be provided in the ducts at the inlets of the fresh air and return air of each compartment/floor.
 - c. Automatic fire dampers shall be closed automatically upon operation of a detector/sprinkler.
 - d. The air ducts for every floor/compartment shall be separated. In no way inter-connected with the ducting of any other compartment.
 - e. Under no circumstances, plenum shall be used as "Return Air Passage" for air conditioning purposes.
6. **Fire Extinguishers:** The portable fire extinguishers of ISI mark suitable to risk shall be provided in all buildings in accordance with IS -2190/ 1992.
 7. **First aid Hose Reel:** Hose reel containing 30m length of 20 mm bore terminating into a shut-off nozzle of 5 mm outlet connected directly to riser shall be provided in all buildings. This shall conform to IS: 884/1998.
 8. **Automatic Fire Detection and Alarming Systems:** Automatic fire detection system i.e. smoke / heat detection system shall be provided in the entire building of all blocks as per clause 9.3.9 of UBBL-2016. The system shall be connected to fire alarm system and shall conform to IS: 2189 /1999.
 9. **Manually operated fire alarm system:** Manually operated fire alarm call points at suitable locations on each floor of all the buildings shall be installed as per National Building Code and the same shall conform to IS-2189/1999.
 10. **Public Address System:** The public address system shall be provided in the all building, having loudspeakers in the common area. The microphone, amplifier and control switches of public address system shall be installed in the Fire Control Room as per UBBL-2016.
 11. **Automatic Sprinkler System:** The Automatic sprinkler system shall be installed in entire floors of all building including basement in accordance with BIS: 15105 / 2002& E-6 of NBC-2016 part-4. Flow alarm switch/gong shall be incorporated in the installation for giving proper indication/sound. The pressure gauge shall also be provided near the testing facility. The entire system including pump capacity and head, size of pipe network, orifice control etc. shall be provided in accordance with the relevant code. The sprinkler shall be feed from the main and an alternate /standby riser with suitable isolation valve. Drencher system for fire check floor shall be provided and shall be feed from the water curtain pump. Fire service inlet shall also be provided at ground floor level.
 12. **Internal Hydrant and Yard Hydrant:** Wet riser/ downcomer system near staircases shall be provided in all buildings as per IS 3844-1989. Down comer shall be directly connected to header of the pump from over head tank. Hose box of suitable dimension shall be provided near each internal hydrant. Its design shall be such that it can be readily opened in an emergency. Each box shall contain two lengths of 63 mm diameter, 15m length, rubber lined delivery hoses conforming to IS: 636 complete with 63 mm instantaneous coupling conforming to IS: 903 with a nozzle of 16 mm diameter. Yard hydrants shall be provided in the building premises as per NBC part-4.
 13. **Pumping Arrangements:** Fire pump house having one electric driven pump of 2850 LPM capacity at 190 meter head for hydrant network, 01 electric pump of 2850 LPM capacity at 190 meter head for sprinkler system , two jockey pump of 180 LPM capacity each ,one diesel driven stand by pump of 2850 LPM capacity

Plot no 1,3 Cavalry lane and 4 chhatra marg civil lines Delhi 07

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no smoke in
basement

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diesel driven stand by pump of 2850 LPM capacity at 190 meter head, terrace pump of 900 LPM at each tower and one diesel pump of 2850 LPM against the requirement of additional set of pump are proposed to be provided in the complex. Moreover, one electric pump of 2280 LPM, 01 diesel pump of same capacity for standby & 01 Jockey pump of 180 LPM for water curtain in the basement & drencher system for fire check floor are also proposed to be provided in the building as per NBC-2016 part-4.

Fire safety arrangements such as fire extinguishers, hose reel, wet riser/down comer, yard hydrant, automatic sprinkler System in entire floors of all towers including basement, automatic detection and alarm system, MOEFA, and terrace tank of 20,000 litres at each tower B,C & D and 10,000 liter at EWS block are proposed to be provided as per NBC-2016 part IV.

Fire control room & Fire tower in each tower is proposed to be provided. Fire check floor in a tower having height more than 70 meter at immediately above 70 meter is also proposed to be provided.

Open set back area is not checked as it shall be checked by concerned building sanctioning authority.

There is no objection to this department for the construction of the said housing complex subject to the compliance of the following fire safety recommendations.

1. **Access to building:** The plot abuts on 24 & 18 meter wide road and the building is accessible through 06 meter wide main gate. The entrance gate shall fold back for free movement of fire service vehicles against the compound wall of the premises thus leaving the exterior access way within the plot. The archway, if any, shall not be at a height less than 5 meters. Clear-cut 09 meter wide with 12 meter turning radius motorable road shall be ensured, all around the high rise block, for free movement of fire tender as per clause 8.2 of UBBL-2016.
2. **Number, width, Type and Arrangement of Exits:** The staircases as indicated in the table above shall be provided in various blocks and staircases which are serving to basement shall be segregated at ground floor. Width of corridor and exit in assembly area (community facilities) shall not be less than 2 meter. The staircase shall meet the requirements as per National Building Code of India Part 4/UBBL-2016. Clear-cut width of staircase and door shall be maintained at the time of completion.
One staircase shall be Fire Tower in each block as per clause 9.3.13 of UBBL-2016.
3. **Protection of exits by means of fire check doors and or pressurization:** The fire check doors of minimum 2 hrs fire resistance rating shall be provided at the entrance of each staircase/lift lobby in the building and as marked on plans. Pressurization system for lift well and lift lobbies/ staircase or corridors shall be installed as per NBC-2016 Part IV and as per clause 9.3.2 of UBBL-2016.
4. **Compartmentation:** The building shall be suitably compartmentalized so that the fire / smoke remain confined to the area where fire incidents have occurred and does not spread to the remaining part of the building. This shall conform to clause 8.4.6. of UBBL-2016/NBC-2016 part-4. A fire check floor shall be provided as per clause 9.3.8 of UBBL-2016.
5. **Smoke Management System:** Smoke venting facilities shall be provided as per NBC Part IV, Fire and Life Safety. Mechanical extractors shall have an interlocking arrangements and the system shall be of such design as to operate on actuation of heat/ smoke sensitive detectors, sprinklers. Smoke extraction system shall be designed to permit 12 air changes per hour in case of fire in

Plot no 1,3 Cavalry lane and 4 chhatra marg civil lines Delhi 07

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- at 190 meter head, terrace pump of 900 LPM at each block and one diesel pump of 2850 LPM against the requirement of additional set of pump shall be provided in the complex as per NBC-2016 part-4. Moreover, one electric pump of 2280 LPM, 01 diesel pump of same capacity for standby & 01 Jockey pump of 180 LPM for water curtain in the basement & drencher system for fire check floor shall also be provided as per NBC-2016 part-4. The suitable orifice plate/reducer shall be provided to maintain the requisite pressure of 3.5 Bars at the remotest point. All the pumps shall be automatic in operation.
14. **Captive Water Storage for fire fighting:** An underground fire water storage tank of 4,00,000 litre capacity and terrace tank of 20,000 litres on the terrace of blocks B, C & D and 10,000 liter on EWS shall be provided. The underground water storage tanks shall be approachable by the fire engine. Draw off connection/ fire service inlet shall be provided. The replenishment through bore well or from the town main be ensured @ 1000 LPM. One ladder or any other form of open access to the overhead fire water tank for inspection, shall be provided as per clause 7.10.3 of UBBL-2016. This shall conform to the requirements given in National Building Code of India Part IV/UBBL-2016.
 15. **Exit Signage:** Exit signages shall be provided in the building at appropriate locations. Floor level marking, all exits and exit way marking signs in entire complex must be illuminated and wired to independent circuit supplied by alternate source of power supply. Wiring for the illuminated exit signs shall be suitably protected against fire. Illuminated / glowing paint strips shall be provided at each level to guide the direction for escaping towards a safe place. The size and colour of the exit signs shall be as per IS 9457: 1980.
 16. **Provision of lifts:** Lifts as mentioned in the table above are proposed to be provided in the various buildings block. The lifts shall be equipped with a fireman's grounding switch so that, it is possible to ground the lift during a fire/emergency. In case of failure of normal supply, it shall automatically trip over to the alternate supply. Suitable slope in the floor of lift lobby shall be made to prevent water, used during fire fighting etc. at any landing, from entering into lift shaft. All other conditions and provisions shall be provided strictly in accordance to National Building Code of India Part IV/UBBL-2016.
 17. **Standby Power Supply:** Emergency lighting, exit signs, staircase and corridor lighting circuit, lift, fire pumps smoke extraction system and pressurization shall be powered from an additional source of power supply like generator and shall be automatic in action. The emergency lighting system shall be capable of continuous operation for a minimum duration of 1 hour and 30 minutes. The emergency lighting shall be provided to be put on within 1 second of the failure of the normal lighting supply.
 18. **Refuge Area:** Not applicable as per UBBL-2016 /NBC part-4.
 19. **Fire Control Room:** As proposed on the building plans fire control room in each building shall be provided in accordance with the provisions contained in NBC-2016, Part-IV Fire and Life safety/as per clause 9.3.10 of UBBL-2016. Trained personal shall be appointed round the clock to look after the fire protection arrangements in the building.
 20. **Special Fire Protection Systems for Protection of Special Risk:** The electric sub-station if constructed installation of Transformer, LT & HT panels shall be as per the provisions specified by the Electrical Authority. However, the following points shall be followed:-
 - a. The HT & LT panels shall be separated with the walls of 02 hours fire resistance rating. It is necessary to separate shield wall extending up to the one meter on sides above the highest point of the transformer. Fire protection

- 380-735
- for transformer and panel shall be provided as per clause 5.1.4, 5.1.5 & 5.1.6 of NBC part-4 .
- b. The electrical distribution cables/wiring shall be laid in a separate duct. The duct shall be sealed at every floor with non-combustible materials having the same fire resistance as that of the duct. Low and medium voltage wiring running in shaft and in false ceiling shall run in separate conduits.
 - c. Water mains, telephone lines, intercom lines, gas pipes or any other service line shall not be laid in the duct for electrical cables; use of bus ducts/ solid rising mains instead of cables is preferred.
 - d. Separate circuit for fire fighting pumps, staircases and corridor lighting and blowers for pressurizing system shall be provided directly from the main switch gear panel and these circuits shall be laid in separate conduit pipes, so that fire in one circuit will not affect the others.
 - e. The inspection panel doors and any other opening in the shafts shall be provided with air tight doors having fire resistance of not less than 2hrs. The electric installations shall be as per BIS 1646.
 - f. The fire protection for kitchen shall be provided as per clause annex-G of NBC part-4/2016.

The approval of building plans shall be valid only for the present layout of the floors; any subdivision of the floors shall only be done by ensuring the proper means of escape, with the prior approval of this department. It shall be ensured that provisions of all requisite fire and life safety measures stipulated in National Building Code of India/UBBL-2016 shall be complied in letter and spirit before the occupancy of the building under intimation to this department. The fire safety guidelines/recommendations issued vide letter No F.6/DFS/MS/BP/2016/07 dated 15.01.16 shall stand null and void .For any complaint/ grievances regarding building permit please contact on mail id hpc_buildingpermit@dda.org.in.

Yours faithfully

(Atul Garg)

Chief Fire Officer

011-23414250

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ANNEXURE-33~~Annexure~~ 381**Dr. K.S. Rao**

M.Sc., M.Tech (Civil), Ph.D. (Rock Mech)
 FIGS, MISSMGE, MISRM, MISRMTT, MISTE, MISET
 Professor of Geotechnical Engineering

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Seismic Vulnerability of National Capital Region Delhi

India's high earthquake risk and vulnerability is evident from the fact that about 59% of India's land area could face moderate to severe earthquakes. North India and particularly the Himalayan belt have experienced many strong to moderate earthquakes since eighteenth century. Microzonation has recognized as the most accepted tool in seismic hazard assessment and risk evaluation and it is defined as the zonation with respect to ground motion characteristics considering source and site conditions. Normally, these hazards include ground motion amplification and liquefaction. Safety against the earthquake hazard has two aspects: firstly, structural safety against potentially destructive dynamic force and secondly the safety of a site itself related with geotechnical phenomena.

Detailed seismological, geological and geotechnical studies have been carried out at different locations of the National capital region of Delhi. All tectonic units were delineated and a detailed seismotectonic maps were prepared. Deterministic (DHSA) and probabilistic (PHSA) hazard analyses were done and estimated PGA at bed rock. Geophysical characterization using MASW and Microtremor studies were conducted at several locations for site classification. Further, Ground response analysis (GRP) was carried out and used to generate spectral acceleration curves for various site classes. Using these results and large geotechnical data base liquefaction potential of different regions was estimated especially Yamuna and trans Yamuna locations.

Accordingly, the uncemented, saturated sand/silts which are predominant in and around Delhi Viswa vidyala, Mukerjee Nagar, Pusa Road, Yamuna vihar, Nand Nagari, Geeta colony and many other areas are found to be vulnerable for the liquefaction during the earthquakes of high magnitude. Methods based on SPT N values and shear wave velocity results obtained at Delhi University clearly indicating the liquefaction potential due to earthquake in green field conditions. Advisable to avoid such areas for the intense infrastructure development.

K S Rao
 23.1.20
 Prof K S Rao

Dept of Civil Engineering, IIT Delhi

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ANNEXURE-34

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* **IN THE HIGH COURT OF DELHI AT NEW DELHI**

+ W.P.(C) 4534/2015 & C.Ms.No.14111/2016, 12121/2020

ARPIT BHARGAVA & ANR. Petitioner

Through: Petitioner in person

Versus

NORTH DELHI MUNICIPAL
CORPORATION & ORS.

.... Respondents

Through: Mr.Ajjay Aroraa, Standing
Counsel for R-1 to 3.

Mr.Santosh Kr.Tripathi, ASC for
Respondent No.4/GNCTD.

Mr.Bhagwan Swarup Shukla, CGSC for
Respondent No.5/UOI.

Mr.Tarveen Singh Nanda, Adv. with
Mr.Ankur Mishra, Adv. for Delhi Cantt.
Board.

Mr.Anil Grover, Standing Counsel, with
Mr.Tushar Sannu, ASC, Ms.Noopur
Singhal, Misha Vij, Advs. for NDMC.

Mr.Arjun Pant, Adv. for DDA.

Mr.Sanjeev Sindhvani, Sr.Adv. with
Mr.Vivek Gaur, Adv. and Mr.Gaurav Gaur,
Applicant in C.M.No.12740/2020.

CORAM:

HON'BLE THE CHIEF JUSTICE

HON'BLE MR. JUSTICE PRATEEK JALAN

ORDER

18.06.2020

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Proceedings of the matter have been conducted through video conferencing.

C.Ms.No.12739/2020 & 12741/2020 (exemptions)

Exemptions allowed, subject to all just exceptions.

The applications are disposed of.

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C.M.No.12740/2020 (for intervention)

1. Learned senior counsel appearing for the applicant/intervenor does not press this application and seeks leave to withdraw the same with liberty to the applicant to file a separate writ petition.
2. Leave as prayed for is granted and the application is disposed of as withdrawn. However, liberty is reserved with the applicant to file an appropriate proceedings before appropriate forum with proper averments, allegations and annexures.

C.M.No.12121/2020

3. We have heard the learned counsel for the respondents as well as the applicant/petitioner in person in C.M.No.12121/2020 and it appears from the facts of the case that on paper, certain notifications and action plans have been initiated by the respondents including Government of NCT of Delhi and other Municipal Corporations/Council. However, when we asked a question as to whether these notifications or action plans have yet been implemented in the city of Delhi, no positive answer has been put forward either by the counsel for the Government of NCT of Delhi or by counsel for any of the Municipal Corporations, New Delhi Municipal Council and Delhi Cantonment Board.
4. We are not going into the sufficiency of the provisions made in the said notifications/ action plans at this stage. However, it ought to be kept in mind that drafting of notifications and action plans has to be followed up with their timely implementation/execution. We expect from all the respondents that the notifications/ guidelines/ directions have issued by them should be implemented quickly keeping in mind the earlier orders passed by

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this Court in this writ petition and in the Civil Miscellaneous Applications preferred therein.

5. Having regard to the submissions of the respondents themselves that the city of Delhi is not at present in a state of readiness in terms of seismic structural stability of buildings, we expect that by the next date of hearing, information will be furnished by all the concerned respondents regarding at least 25 buildings in respect of which they have commenced implementation of the action plan as pointed out by the Government of NCT of Delhi in their counter affidavit.
6. What is in the interest of the public, is the execution of the directions and not the high-sounding words of the notifications. At this stage, we are not criticizing, but if no execution of the directions are shown by the respondents, the respondents must be ready to face the criticism of the Court and the officer(s) concerned must be ready to face action against them.
7. Respondents are directed to file their further affidavit/reports before the next date of hearing.
8. With these observations, this matter is adjourned to 8th July, 2020.

CHIEF JUSTICE

PRATEEK JALAN, J

JUNE 18, 2020/ 'anb'

ANNEXURE-35

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GEOTECHNICAL
INVESTIGATION
REPORT

PROJECT

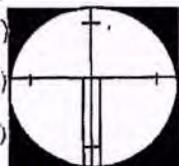
REPORT ON SOIL INVESTIGATION WORK FOR
DEVELOPMENT OF GROUP HOUSING SCHEME
AT 1,3 CAVALARY LANE & 4, CHHATRA MARG,
MALL ROAD, CIVIL LINES,
DELHI.

SUBMITTED BY

RAO ENGINEERING ENTERPRISES
GEOTECHNICAL CONSULTANTS & LAND SURVEYORS

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e-mail : raoraengg@rediffmail.com, raogr@yahoo.com

PROJECT : REPORT ON SOIL INVESTIGATION WORK FOR DEVELOPMENT
OF GROUP HOUSING SCHEME AT 1,3, CAVALARY LANE &
4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

CLIENT : YOUNG BUILDERS PVT. LTD.
43, BABAR ROAD, BENGALI MARKET,
NEW DELHI-110001.

REPORT NO. : 3114

DATE : 16.07.2011

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 RAO ENGINEERING ENTERPRISES - - - GEOTECHNICAL REPORT

REPORT ON SOIL INVESTIGATION WORK FOR DEVELOPMENT OF
GROUP HOUSING SCHEME AT 1,3 CAVALARY LANE & 4, CHHATRA
MARG, MALL ROAD, CIVIL LINES, DELHI.
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1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

This soil investigation work , whose results are being presented herewith , has been carried out for the proposed Development of Group Housing Scheme at 1,3 Cavalary Lane & 4, Chhatra Marg, Mall Road, Civil Lines, Delhi. The multistoried buildings consist of Ground + 23-29 storied. A club house is also planned at the site with Ground + 1-2 storied.

A layout plan showing the locations of our field investigation is attached at the end of this report.

1.2 AIM OF SOIL INVESTIGATION

Soil investigation has been conducted at the site in order to evaluate the parameters required for design of foundations. These parameters are :

- (a) Type of foundation on which the proposed super structure will be supported.
- (b) Depth of foundation , and
- (c) Allowable bearing pressure at the founding level.

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To evaluate these parameters, following engineering properties of the sub-soil have been studied:

- (a) sub-soil penetration resistance characteristics which have been determined insitu.
- (b) Properties like particle size distribution, atterberg limits, specific Gravity, bulk density, moisture content, and shear strength parameters; which have been determined in the laboratory by conducting testing of both disturbed as well as undisturbed samples.

1.3 SCOPE OF WORK

The stipulated scope of work comprised of the following:

1. Mobilization of equipment and personnel to the site and back.
2. Sinking 4 boreholes to 40.0 m depth, 5 boreholes to 30.0 m depth and 1 borehole to 20.0 m depth or refusal whichever is encountered earlier, observing ground water table levels, conducting required field and laboratory tests and their analysis.
3. Conducting 3 nos. Dynamic Cone Penetration tests upto 12.0 m depth or refusal for obtaining additional data for the design.
4. Conducting 2 Nos. Plate Load Tests at 60cm x 60cm size plate at 2.0 m depth at the site.
5. Conducting 1 no. Field California Bearing Ratio (CBR test) test at the site.
6. Conducting 1 no. Electrical Resistivity test at the site at specified location.
7. Conducting chemical tests on soil & water samples obtained from the site.
8. Preparation and submission of technical report in triplicate.

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2.0 INVESTIGATIONS CONDUCTED

2.1 INSITU TESTS

Locations of field-testing points have been marked at the site as per the direction of the client. These locations have been designated as BH-1 to BH-10, PLT-1 & PLT-2, DCPT-A, B & C, CBR-1 & ERT-1 in this report.

2.1.1 BOREHOLES PROCEDURE

The borings were progressed to the specified depth of 30-40.0m. The diameter of the borehole was 150mm. Where caving of the borehole occurred, casing was used to keep the borehole stable. The work was in general accordance with IS:1892-1979.

Standard Penetration Tests (SPT) were conducted in the borehole at 1.5m interval by connecting a split spoon sampler to 'A' rods and driving it by 45 cm using a 63.5 kg hammer falling freely from a height of 75 cm. The tests were conducted in accordance with IS:2131-1981.

The number of blows for each 15 cm of penetration was recorded. The blows required to penetrate the initial 15 cm of the split spoon for seating the sampler is ignored due to the possible presence of loose materials or cuttings from the drilling operation. The cumulative number of blows required to penetrate the balance 30 cm of the 45 cm sampling interval is termed the SPT value or the 'N' value.

Disturbed samples were collected from the split spoon after conducting SPT. The samples were preserved in transparent polythene bags. Undisturbed samples were collected by attaching a 100 mm diameter thin walled 'Shelby' tubes and driving the sampler lightly using a 63.5 kg hammer in accordance with IS:2132 .

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2.1.1.1 WATER TABLE

In the boreholes, groundwater was encountered at about 7.5-7.7 m depth below ground surface during the time of our field investigation. Fluctuations may occur in measured water table due to variation in rainfall and surface evaporation rates.

2.1.1.2 STANDARD PENETRATION TEST RESULTS

Following standard penetration resistance ('N') values have been recorded at various depths, in the ten boreholes.

| DEPTH (M) | 'N' VALUES | | | | |
|-----------|------------|-----|-----|-----|-----|
| | BH1 | BH2 | BH3 | BH4 | BH5 |
| 1.5 | 11 | 16 | - | 7 | 13 |
| 3.0 | 13 | 29 | 25 | 18 | 13 |
| 4.5 | 24 | 50 | 24 | 21 | 14 |
| 6.0 | 27 | 54 | 30 | 17 | 18 |
| 7.5 | 19 | 60 | 16 | 16 | 16 |
| 9.0 | 18 | 40 | 17 | 19 | 19 |
| 10.5 | 20 | 68 | 15 | 12 | 13 |
| 12.0 | 24 | 52 | 21 | 18 | 18 |
| 13.5 | 28 | 48 | 23 | 20 | 18 |
| 15.0 | 30 | 66 | 22 | 27 | 25 |
| 18.0 | 33 | 74 | 34 | 28 | 25 |
| 21.0 | 36 | 66 | 37 | 26 | 24 |
| 24.0 | 37 | 75 | 41 | 33 | 62 |
| 27.0 | 43 | 58 | 38 | 38 | 50 |
| 30.0 | 48 | 65 | 41 | 44 | 48 |
| 33.0 | 45 | 72 | 45 | 50 | - |
| 36.0 | 49 | 68 | 48 | 55 | - |
| 40.0 | 61 | 90 | 55 | 55 | - |

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| DEPTH (M) | 'N' VALUES | | | | |
|-----------|------------|-----|-----|-----|------|
| | BH6 | BH7 | BH8 | BH9 | BH10 |
| 1.5 | 10 | 14 | 19 | 10 | 11 |
| 3.0 | 17 | 15 | 22 | 21 | 8 |
| 4.5 | 17 | 18 | 29 | 21 | 28 |
| 6.0 | 27 | 28 | 26 | 13 | 31 |
| 7.5 | 33 | 24 | 31 | 18 | 17 |
| 9.0 | 15 | 26 | 13 | 10 | 25 |
| 10.5 | 15 | 15 | 24 | 11 | 17 |
| 12.0 | 21 | 25 | 25 | 12 | 20 |
| 13.5 | 21 | 16 | 22 | 14 | 21 |
| 15.0 | 28 | 21 | 21 | 20 | 25 |
| 18.0 | 29 | 27 | 23 | 27 | 28 |
| 21.0 | 42 | 39 | 28 | 31 | 35 |
| 24.0 | 47 | 37 | 33 | 35 | - |
| 27.0 | 47 | 45 | 42 | 38 | - |
| 30.0 | 53 | 48 | 47 | 45 | - |

2.1.2 PLATE LOAD TEST PROCEDURE

Plate Load tests were performed at the site using a 60cm x 60 cm size plate at about 2.0m depth. The test procedure was in general accordance with IS: 1888-1982.

Dead load was used to provide the reaction. The plate was loaded by pushing up against the dead load using a 50 tonne capacity hydraulic jack. Dial gauges measured the plate settlement with reference to a stable reference bar. The load is applied in small increments upto a maximum loading intensity of about 6.0 kg/cm² or 40 mm settlement of the plate, whichever occurs first. Each load was held until the time rate of settlement became negligible. After applying the maximum load, the plate was unloaded in steps and the rebound was recorded

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2.1.3 DYNAMIC CONE PENETRATION TESTS PROCEDURE

In this test, a metal cone of apex angle 60 degrees was continuously driven into the sub-soil strata with the help of a falling hammer. Number of blows required for every 30 cms penetration was noted down. Thus a continuous record of penetration resistance of the sub-soil strata was maintained.

Results of the tests have been plotted in the form of no. of blows/depth are plotted in this report.

2.1.4 ELECTRICAL RESISTIVITY TEST PROCEDURE

Electrical resistivity of the soil at the site was determined at the location specified by the client. The earth resistivity test is used for shallow subsurface exploration by means of electrical measures made at the ground surface. Resistivity measurements are made by driving four electrodes about 10 to 15 cm into the ground at a pre-selected electrode spacing.

The four electrodes were spaced at equal distance along different locations. The average of the resistivity values for each direction was taken as the mean resistivity for that spacing. The test procedure is in accordance with IS:3043:1987. The test results are presented graphically on Figs in this report.

Measurements are made by causing a current, I , to pass through the earth and distribute within a relatively large hemispherical earth mass. The portion of the current that flows along the surface produces a voltage drop, V .

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The resistance "R" is the ratio of voltage drop 'V' to current I is directly measured by digital earth resistance tester. The resistivity is determined from the following equation -

$$\rho = 2 \pi a R$$

where :

ρ = apparent resistivity, ohm-m.
 a = spacing between the electrodes, metre
 R = Resistance, ohms.

2.1.5 FIELD CALIFORNIA BEARING RATIO (CBR TEST) PROCEDURE

Field California Bearing Ratio (CBR) test was conducted at specified location. In general, the test procedure was as per IS : 2720:1990 Part 31.

For the test, the CBR plunger of 5 cm diameter was penetrated into the soil under a standard surcharge load at a rate of approximately 1.25 mm per minute. A proving ring was used to measure the load. A dial gauge of 0.01 mm sensitivity was used to measure the penetration with reference to a stable datum. The CBR value was calculated as percent ratio of pressure applied for specified penetrations into the soil to that required to penetrate into the standard material.

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2.2 LABORATORY TESTS AND RESULTS

Following tests have been conducted on various soil & water samples in the laboratory:

| Laboratory Test | IS : Code Referred |
|--|---|
| Natural moisture content | IS : 2720 (Part-2)-1973 |
| Grain size analysis | IS : 2720 (Part-4)-1985 |
| Liquid & Plastic limit | IS : 2720 (Part-5)-1985 |
| Unconsolidated Undrained Triaxial shear test | IS : 2720 (Part-11)-1993 |
| Consolidated Drained Direct Shear Test | IS : 2720 (Part-13)-1986 |
| Unconfined Compression Test | IS : 2720 (Part-10)-1991 |
| Specific Gravity Test | IS : 2720 (Part-3)-1980 |
| Chemical Analysis of soil | Determination of pH value IS : 2720 (Part-26)-1987 |
| | Determination of total soluble sulphate IS : 2720 (Part-27)-1977 |
| Chemical Analysis of water | Determination of total soluble sulphate IS : 3025 (Part-11)-1996 |
| | Determination of chloride content IS : 3025 (Part-24)-1998 |
| | Determination of pH value IS : 3025 (Part-32)-1993 |

Results are being tabulated as follows

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LABORATORY TEST RESULTS

BOREHOLE LOCATION : 1

DISTURBED SAMPLES

| DEPTH (M) | GRADATION ANALYSIS (%) | | | | ATTERBERG LIMITS (%) | |
|--------------|------------------------|------|------|------|----------------------|---------|
| | GRAVELS | SAND | SILT | CLAY | LIQUID | PLASTIC |
| 1.5 | 2 | 75 | 23 | 0 | NON PLASTIC | |
| 6.0 | 4 | 76 | 20 | 0 | NON PLASTIC | |
| 12.0 | 5 | 73 | 22 | 0 | NON PLASTIC | |
| 18.0 | 3 | 77 | 20 | 0 | NON PLASTIC | |
| 33.0 | 2 | 32 | 57 | 9 | 25.7 | 17.2 |
| 40.0 | 4 | 30 | 56 | 10 | 26.9 | 18.5 |

UNDISTURBED SAMPLES

| DEPTH BELOW G.L. (M) | BULK DENSITY (gms/cc) | WATER CONTENT (%) | DRY DENSITY (gms/cc) | COHESION (kg/sq. cm) | ANGLE OF SHEARING RESISTANCE (Ø) |
|-------------------------------|--------------------------|-------------------------|----------------------------|-------------------------|---|
| 2.25 | 1.66 | 8.9 | 1.52 | 0.00 | 30° |
| 8.25 | 1.77 | 11.2 | 1.59 | 0.80 | 4° |
| 11.25 | 1.85 | 14.3 | 1.62 | 0.00 | 33° |
| 17.25 | 1.98 | 16.9 | 1.69 | 0.00 | 35° |
| 32.25 | 2.09 | 18.7 | 1.76 | 1.25 | 6° |

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LABORATORY TEST RESULTS

BOREHOLE LOCATION : 2

DISTURBED SAMPLES

| DEPTH (M) | GRADATION ANALYSIS (%) | | | | ATTERBERG LIMITS (%) | |
|--------------|------------------------|------|------|------|----------------------|---------|
| | GRAVELS | SAND | SILT | CLAY | LIQUID | PLASTIC |
| 3.0 | 3 | 73 | 24 | 0 | NON PLASTIC | |
| 7.5 | 2 | 34 | 56 | 8 | 24.8 | 16.3 |
| 10.5 | 4 | 74 | 22 | 0 | NON PLASTIC | |
| 24.0 | 2 | 32 | 57 | 9 | 25.6 | 17.7 |
| 30.0 | 4 | 31 | 56 | 10 | 26.7 | 18.8 |
| 36.0 | 6 | 74 | 20 | 0 | NON PLASTIC | |

UNDISTURBED SAMPLES

| DEPTH BELOW G.L. (M) | BULK DENSITY (gms/cc) | WATER CONTENT (%) | DRY DENSITY (gms/cc) | COHESION (kg/sq. cm) | ANGLE OF SHEARING RESISTANCE (θ) |
|-------------------------------|--------------------------|-------------------------|----------------------------|-------------------------|--|
| 5.25 | 1.70 | 9.7 | 1.55 | 0.00 | 31° |
| 8.25 | 1.75 | 10.9 | 1.58 | 0.92 | 5° |
| 17.25 | 1.89 | 13.6 | 1.66 | 1.00 | 5° |
| 29.25 | 2.04 | 15.8 | 1.76 | 1.18 | 6° |
| 35.25 | 2.14 | 19.3 | 1.79 | 0.00 | 36° |

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LABORATORY TEST RESULTS

BOREHOLE LOCATION : 3

DISTURBED SAMPLES

| DEPTH (M) | GRADATION ANALYSIS (%) | | | | ATTERBERG LIMITS (%) | |
|--------------|------------------------|------|------|------|----------------------|---------|
| | GRAVELS | SAND | SILT | CLAY | LIQUID | PLASTIC |
| 3.0 | 2 | 74 | 24 | 0 | NON PLASTIC | |
| 6.0 | 3 | 77 | 20 | 0 | NON PLASTIC | |
| 13.5 | 4 | 33 | 55 | 8 | 24.9 | 16.1 |
| 24.0 | 4 | 74 | 22 | 0 | NON PLASTIC | |
| 33.0 | 6 | 31 | 54 | 9 | 25.7 | 17.0 |
| 40.0 | 8 | 29 | 55 | 8 | 24.6 | 16.4 |

UNDISTURBED SAMPLES

| DEPTH BELOW G.L. (M) | BULK DENSITY (gms/cc) | WATER CONTENT (%) | DRY DENSITY (gms/cc) | COHESION (kg/sq. cm) | ANGLE OF SHEARING RESISTANCE (θ) |
|-------------------------------|--------------------------|-------------------------|----------------------------|-------------------------|--|
| 5.25 | 1.71 | 10.0 | 1.55 | 0.00 | 31° |
| 14.25 | 1.84 | 13.8 | 1.62 | 1.00 | 5° |
| 20.25 | 1.97 | 17.1 | 1.68 | 0.00 | 34° |
| 26.25 | 2.07 | 19.2 | 1.74 | 1.18 | 6° |
| 32.25 | 2.16 | 20.4 | 1.79 | 1.24 | 6° |

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LABORATORY TEST RESULTS

BOREHOLE LOCATION : 4

DISTURBED SAMPLES

| DEPTH (M) | GRADATION ANALYSIS (%) | | | | ATTERBERG LIMITS (%) | |
|--------------|------------------------|------|------|------|----------------------|---------|
| | GRAVELS | SAND | SILT | CLAY | LIQUID | PLASTIC |
| 1.5 | 2 | 77 | 21 | 0 | NON PLASTIC | |
| 9.0 | 3 | 34 | 53 | 10 | 26.7 | 18.4 |
| 18.0 | 4 | 73 | 23 | 0 | NON PLASTIC | |
| 21.0 | 3 | 77 | 20 | 0 | NON PLASTIC | |
| 27.0 | 2 | 32 | 57 | 9 | 25.5 | 17.0 |
| 36.0 | 5 | 30 | 57 | 8 | 24.9 | 16.2 |

UNDISTURBED SAMPLES

| DEPTH BELOW G.L. (M) | BULK DENSITY (gms/cc) | WATER CONTENT (%) | DRY DENSITY (gms/cc) | COHESION (kg/sq. cm) | ANGLE OF SHEARING RESISTANCE (Ø) |
|-------------------------------|--------------------------|-------------------------|----------------------------|-------------------------|---|
| 2.25 | 1.68 | 9.9 | 1.53 | 0.00 | 29° |
| 8.25 | 1.76 | 11.7 | 1.58 | 0.85 | 4° |
| 14.25 | 1.87 | 13.8 | 1.64 | 1.09 | 5° |
| 23.25 | 2.01 | 16.9 | 1.72 | 0.00 | 35° |
| 29.25 | 2.07 | 18.5 | 1.75 | 0.00 | 36° |

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LABORATORY TEST RESULTS

BOREHOLE LOCATION : 4

DISTURBED SAMPLES

| DEPTH (M) | GRADATION ANALYSIS (%) | | | | ATTERBERG LIMITS (%) | |
|--------------|------------------------|------|------|------|----------------------|---------|
| | GRAVELS | SAND | SILT | CLAY | LIQUID | PLASTIC |
| 1.5 | 2 | 77 | 21 | 0 | NON PLASTIC | |
| 9.0 | 3 | 34 | 53 | 10 | 26.7 | 18.4 |
| 18.0 | 4 | 73 | 23 | 0 | NON PLASTIC | |
| 21.0 | 3 | 77 | 20 | 0 | NON PLASTIC | |
| 27.0 | 2 | 32 | 57 | 9 | 25.5 | 17.0 |
| 36.0 | 5 | 30 | 57 | 8 | 24.9 | 16.2 |

UNDISTURBED SAMPLES

| DEPTH BELOW G.L. (M) | BULK DENSITY (gms/cc) | WATER CONTENT (%) | DRY DENSITY (gms/cc) | COHESION (kg/sq. cm) | ANGLE OF SHEARING RESISTANCE (ϕ) |
|-------------------------------|--------------------------|-------------------------|----------------------------|-------------------------|--|
| 2.25 | 1.68 | 9.9 | 1.53 | 0.00 | 29° |
| 8.25 | 1.76 | 11.7 | 1.58 | 0.85 | 4° |
| 14.25 | 1.87 | 13.8 | 1.64 | 1.09 | 5° |
| 23.25 | 2.01 | 16.9 | 1.72 | 0.00 | 35° |
| 29.25 | 2.07 | 18.5 | 1.75 | 0.00 | 36° |

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LABORATORY TEST RESULTS

BOREHOLE LOCATION : 5

DISTURBED SAMPLES

| DEPTH (M) | GRADATION ANALYSIS (%) | | | | ATTERBERG LIMITS (%) | |
|--------------|------------------------|------|------|------|----------------------|---------|
| | GRAVELS | SAND | SILT | CLAY | LIQUID | PLASTIC |
| 3.0 | 0 | 75 | 25 | 0 | NON PLASTIC | |
| 10.5 | 2 | 32 | 58 | 8 | 24.8 | 16.7 |
| 15.0 | 3 | 74 | 23 | 0 | NON PLASTIC | |
| 24.0 | 5 | 30 | 55 | 10 | 26.7 | 18.2 |
| 30.0 | 3 | 32 | 57 | 8 | 24.7 | 16.0 |

UNDISTURBED SAMPLES

| DEPTH BELOW G.L. (M) | BULK DENSITY (gms/cc) | WATER CONTENT (%) | DRY DENSITY (gms/cc) | COHESION (kg/sq. cm) | ANGLE OF SHEARING RESISTANCE (Ø) |
|-------------------------------|--------------------------|-------------------------|----------------------------|-------------------------|---|
| 5.25 | 1.71 | 9.8 | 1.56 | 0.00 | 30° |
| 11.25 | 1.85 | 10.9 | 1.63 | 0.75 | 4° |
| 20.25 | 1.91 | 13.6 | 1.72 | 0.00 | 34° |
| 26.25 | 2.03 | 15.8 | 1.75 | 1.15 | 6° |
| 29.25 | 2.08 | 16.9 | 1.78 | 1.20 | 6° |

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LABORATORY TEST RESULTS

BOREHOLE LOCATION : 6

DISTURBED SAMPLES

| DEPTH (M) | GRADATION ANALYSIS (%) | | | | ATTERBERG LIMITS (%) | |
|--------------|------------------------|------|------|------|----------------------|---------|
| | GRAVELS | SAND | SILT | CLAY | LIQUID | PLASTIC |
| 1.5 | 2 | 79 | 19 | 0 | NON PLASTIC | |
| 7.5 | 4 | 76 | 20 | 0 | NON PLASTIC | |
| 12.0 | 5 | 33 | 53 | 9 | 25.8 | 17.5 |
| 21.0 | 2 | 31 | 57 | 10 | 26.3 | 18.6 |
| 30.0 | 4 | 33 | 55 | 8 | 24.5 | 16.1 |

UNDISTURBED SAMPLES

| DEPTH BELOW G.L. (M) | BULK DENSITY (gms/cc) | WATER CONTENT (%) | DRY DENSITY (gms/cc) | COHESION (kg/sq.cm) | ANGLE OF SHEARING RESISTANCE (ϕ) |
|-------------------------------|--------------------------|-------------------------|----------------------------|------------------------|--|
| 2.25 | 1.68 | 9.8 | 1.53 | 0.00 | 30° |
| 8.25 | 1.79 | 11.7 | 1.60 | 0.00 | 32° |
| 17.25 | 1.91 | 14.9 | 1.66 | 1.00 | 5° |
| 26.25 | 2.06 | 16.5 | 1.77 | 1.19 | 6° |

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LABORATORY TEST RESULTS

BOREHOLE LOCATION : 7

DISTURBED SAMPLES

| DEPTH (M) | GRADATION ANALYSIS (%) | | | | ATTERBERG LIMITS (%) | |
|--------------|------------------------|------|------|------|----------------------|---------|
| | GRAVELS | SAND | SILT | CLAY | LIQUID | PLASTIC |
| 3.0 | 2 | 76 | 22 | 0 | NON PLASTIC | |
| 6.0 | 3 | 32 | 56 | 9 | 25.5 | 17.2 |
| 9.0 | 5 | 77 | 18 | 0 | NON PLASTIC | |
| 15.0 | 4 | 32 | 54 | 10 | 26.9 | 18.9 |
| 18.0 | 6 | 29 | 56 | 9 | 25.8 | 17.7 |
| 27.0 | 3 | 31 | 58 | 8 | 24.2 | 16.2 |

UNDISTURBED SAMPLES

| DEPTH BELOW G.L. (M) | BULK DENSITY (gms/cc) | WATER CONTENT (%) | DRY DENSITY (gms/cc) | COHESION (kg/sq. cm) | ANGLE OF SHEARING RESISTANCE (ϕ) |
|-------------------------------|--------------------------|-------------------------|----------------------------|-------------------------|--|
| 2.25 | 1.67 | 9.6 | 1.52 | 0.00 | 29° |
| 5.25 | 1.73 | 10.9 | 1.56 | 0.68 | 4° |
| 11.25 | 1.82 | 12.4 | 1.62 | 0.00 | 33° |
| 20.25 | 1.96 | 15.8 | 1.69 | 1.05 | 5° |
| 23.25 | 2.04 | 16.3 | 1.75 | 1.22 | 6° |

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LABORATORY TEST RESULTS

BOREHOLE LOCATION : 8

DISTURBED SAMPLES

| DEPTH (M) | GRADATION ANALYSIS (%) | | | | ATTERBERG LIMITS (%) | |
|--------------|------------------------|------|------|------|----------------------|---------|
| | GRAVELS | SAND | SILT | CLAY | LIQUID | PLASTIC |
| 1.5 | 3 | 32 | 55 | 10 | 26.4 | 18.8 |
| 6.0 | 4 | 34 | 54 | 8 | 24.9 | 16.5 |
| 8.25 | 5 | 75 | 30 | 0 | NON PLASTIC | |
| 15.0 | 2 | 33 | 56 | 9 | 25.7 | 17.0 |
| 30.0 | 6 | 30 | 55 | 9 | 25.6 | 17.3 |

UNDISTURBED SAMPLES

| DEPTH BELOW G.L. (M) | BULK DENSITY (gms/cc) | WATER CONTENT (%) | DRY DENSITY (gms/cc) | COHESION (kg/sq. cm) | ANGLE OF SHEARING RESISTANCE (ϕ) |
|-------------------------------|--------------------------|-------------------------|----------------------------|-------------------------|--|
| 5.25 | 1.72 | 10.8 | 1.55 | 0.70 | 4° |
| 8.25 | 1.76 | 11.7 | 1.58 | 0.00 | 31° |
| 14.25 | 1.82 | 13.9 | 1.64 | 0.95 | 5° |
| 23.25 | 2.00 | 15.8 | 1.73 | 1.10 | 6° |

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LABORATORY TEST RESULTS

BOREHOLE LOCATION : 9

DISTURBED SAMPLES

| DEPTH (M) | GRADATION ANALYSIS (%) | | | | ATTERBERG LIMITS (%) | |
|--------------|------------------------|------|------|------|----------------------|---------|
| | GRAVELS | SAND | SILT | CLAY | LIQUID | PLASTIC |
| 3.0 | 3 | 34 | 55 | 8 | 24.4 | 16.3 |
| 7.5 | 2 | 76 | 22 | 0 | NON PLASTIC | |
| 9.0 | 4 | 77 | 17 | 0 | NON PLASTIC | |
| 15.0 | 6 | 31 | 54 | 9 | 25.9 | 17.8 |
| 24.0 | 4 | 30 | 56 | 10 | 26.8 | 18.9 |
| 30.0 | 2 | 33 | 57 | 8 | 24.5 | 16.0 |

UNDISTURBED SAMPLES

| DEPTH BELOW G.L. (M) | BULK DENSITY (gms/cc) | WATER CONTENT (%) | DRY DENSITY (gms/cc) | COHESION (kg/sq. cm) | ANGLE OF SHEARING RESISTANCE (ϕ) |
|-------------------------------|--------------------------|-------------------------|----------------------------|-------------------------|--|
| 5.25 | 1.71 | 9.9 | 1.56 | 0.60 | 4° |
| 8.25 | 1.78 | 11.4 | 1.60 | 0.00 | 32° |
| 17.25 | 1.93 | 14.3 | 1.69 | 0.85 | 5° |
| 20.25 | 2.00 | 15.7 | 1.73 | 1.00 | 5° |
| 26.25 | 2.10 | 17.2 | 1.71 | 1.15 | 6° |

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LABORATORY TEST RESULTS

BOREHOLE LOCATION : 10

DISTURBED SAMPLES

| DEPTH (M) | GRADATION ANALYSIS (%) | | | | ATTERBERG LIMITS (%) | |
|--------------|------------------------|------|------|------|----------------------|---------|
| | GRAVELS | SAND | SILT | CLAY | LIQUID | PLASTIC |
| 1.5 | 0 | 76 | 24 | 0 | NON PLASTIC | |
| 4.5 | 2 | 32 | 57 | 9 | 25.4 | 17.5 |
| 9.0 | 3 | 77 | 30 | 0 | NON PLASTIC | |
| 13.5 | 3 | 31 | 56 | 10 | 26.9 | 19.0 |
| 20.0 | 4 | 29 | 59 | 8 | 24.7 | 16.9 |

UNDISTURBED SAMPLES

| DEPTH BELOW G.L. (M) | BULK DENSITY (gms/cc) | WATER CONTENT (%) | DRY DENSITY (gms/cc) | COHESION (kg/sq.cm) | ANGLE OF SHEARING RESISTANCE (ϕ) |
|-------------------------------|--------------------------|-------------------------|----------------------------|------------------------|--|
| 2.25 | 1.67 | 9.3 | 1.53 | 0.00 | 30° |
| 5.25 | 1.72 | 11.0 | 1.55 | 0.65 | 4° |
| 8.25 | 1.79 | 12.8 | 1.59 | 0.00 | 31° |
| 17.25 | 1.95 | 15.6 | 1.69 | 0.92 | 5° |

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3.0 OBSERVATIONS

Following points are observed from results obtained :

- (a) A fill is met at the site to about 1.0-2.0 m depth at the site .The fill contains brickbats, gravel, stone pieces, road material etc. The sub-soil strata in this site below fill comprises mainly light brown silty sand/sandy silt to the final explored depth of 40.0 m .
- (b) Bulk density values vary from 1.66 to 2.16 gms/cc whereas dry density values vary from 1.52 to 1.79 gms./cc. in the ten boreholes.
- (c) In sandy silt strata, cohesion is 0.60-1.25 kg./sq.cm with angle of shearing resistance values range from 4 to 6 degrees. However, in sand strata , average cohesion is 0.00 kg./sq.cm and angle of shearing resistance varies from 29 to 36 degrees.
- (a) Standard penetration test results and dynamic cone penetration test results indicate that the sub-soil strata possesses medium dense to very dense penetration resistance characteristics down to the respective termination depths.

4.0 DISCUSSIONS

For designing the foundation system, the following Parameters are required:

- (a) Suitable type of foundation on which the proposed super - structure can be supported.
- (b) Depth of these foundations, and
- (c) Allowable bearing pressure at the founding level corresponding to various footing sizes.

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5.0 LIQUEFACTION POTENTIAL

Considering the seismic condition, the site falls in zone-IV recommended in IS:1893-2002. The liquefaction at the site has been analysed by following two methods.

1. According to IS: 1893:2002, liquefaction takes place in fine sand below water table for SPT values less than 15 to 5 m depth and less than 25 for depth greater or equal to 10.0 m.

As per the Stratigraphy, silty sand/Sandy silt is met at the site to the final explored depth of 40 m. Groundwater is met at about 7.5-7.7 m depth below ground surface during our field investigation. The SPT values below water table in sand strata are generally higher than 25.

On review of all the soil parameters like SPT values, soil gradation etc., we are of the opinion that liquefaction is not likely to take place at the site.

2. This was also cross-checked by Reference: "Semi-Empirical Procedures for Evaluating Liquefaction Potential during Earthquakes" by I.M. Idriss and R.W. Boulanger (2004), Proceedings, 11th Int'l Conf. On Soil Dynamics & Earthquake Engg which also shows that there is no chance of liquefaction at the site. Calculations for this procedure are attached at the end of this report.

In view of above we recommend that there is no chance of liquefaction at the site.

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6.0 TYPE & DEPTH OF FOUNDATION

Type of foundation to be adopted for a particular structure depends upon the loading intensity at the foundation level and the configuration of loading points.

For multi-storied buildings (Ground+23-29 storied), we recommend that bored cast in situ piles may be provided at the site to support the structural loads. We recommend that 600 mm, 750mm or 800 mm diameter bored cast-in-situ piles should be provided at the site. Alternatively, Raft foundation may also be provided at the site for double/triple basement at about 7.0-10.0m depth.

For Club House structure (Ground+1-2 storied), we recommend that Isolated open spread/strip foundation may be provided at the site. A 1.5 m thick fill is encountered at the site in the vicinity of Club House. In view of site straiigraphy, we recommend a minimum foundation depth of 2.0 m below existing ground surface. However, it should be ensured that the foundation is seated at-least 0.5 m into natural soil below fill strata.

7.0 EVALUATION OF PLATE LOAD TEST RESULTS

Two plate load tests were conducted at 2.0m depth below ground level on 60 cm x 60 cm plate size. The Results are as follows. (Please refer fig no.23 & 24).

| Sl.No | PLT No. | Test Depth, m | Net Ultimate Bearing Capacity, (T/m ²) |
|-------|---------|---------------|--|
| 1 | PLT-1 | 2.0m | 30.0 |
| 2 | PLT-2 | 2.0m | 29.0 |

Considering a safety factor of 2.5, the safe bearing capacity evaluated from these test results are as follows.

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| Sl.No | PLT No. | Test Depth,m | Safe allowable Bearing Capacity, (T/m ²) |
|-------|---------|--------------|--|
| 1 | PLT-1 | 2.0m | 12.0 |
| 2 | PLT-2 | 2.0m | 11.6 |

The settlement interpreted from plate load test results for various wide Isolated Open Spread/Raft Foundation will be about 42-45mm for a net allowable bearing pressure of 10.4 t/sq.m at 2.0m depth.

8.0 RECOMMENDATIONS

8.1 FILE FOUNDATIONS FOR MULTI-STORIED STRUCTURES

Bored cast-in-situ piles are a feasible foundation scheme to support structural loads of multi storied buildings. The following table presents the various parameters used for calculating pile capacities.

| Depth, m | | Soil Classification | c, T/m ² | ϕ , degree | γ , T/m ³ |
|----------|------|---------------------|---------------------|--------------------|-----------------------------|
| From | To | | | | |
| 0.0 | 2.0 | Fill | - | - | - |
| 2.0 | 4.5 | Silty Sand | 0.0 | 30 | 1.68 |
| 4.5 | 7.5 | Sandy Silt | 6.5 | 4 | 1.72 |
| 7.5 | 10.5 | Silty Sand | 0.0 | 30 | 1.75 |
| 10.5 | 17.0 | Sandy Silt | 8.0 | 4 | 1.80 |
| 17.0 | 25.0 | Sandy Silt | 10.0 | 4 | 1.90 |
| 25.0 | 32.0 | Sandy Silt | 12.0 | 4 | 1.95 |
| 32.0 | 40.0 | Sandy Silt | 13.5 | 4 | 2.05 |

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where :

- c = cohesion intercept
 ϕ = angle of internal friction between soil and pile
 γ = Total unit weight

The following table presents our recommended Compressive pile capacities for 600 mm, 750 mm and 800 mm diameter bored piles with a cut off level of 2.0 m below the ground level. For pile capacity design, water table has been considered to rise upto ground surface for worst condition.

| Pile Diameter, mm | Pile Tip Length Below COL, m | Recommended Compressive Pile capacities, Tonnes |
|-------------------|------------------------------|---|
| 600 | 22.0 | 85 |
| | 24.0 | 97 |
| | 26.0 | 107 |
| | 28.0 | 117 |
| | 30.0 | 127 |
| 750 | 22.0 | 112 |
| | 24.0 | 118 |
| | 26.0 | 141 |
| | 28.0 | 155 |
| | 30.0 | 168 |
| 800 | 22.0 | 122 |
| | 24.0 | 139 |
| | 26.0 | 153 |
| | 28.0 | 168 |
| | 30.0 | 182 |

The above values are based on as per IS:2911, Part-1, Section-2 and include a safety factor of 2.5. Safe capacities of piles of intermediate length may be interpolated linearly between the values given above. Piles should be load tests to verify capacities

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8.2 OPEN FOUNDATION FOR CLUB HOUSE

8.2.1 ALLOWABLE BEARING PRESSURE

Following criterion have been considered for evaluating the bearing capacity values :

- (a) Settlement criteria
- (b) Shear failure criterion

Shear failure condition as per I.S. 6403 has been considered for allowable bearing pressure computation.

Allowable settlement value of 50 mm has been considered for deducing shear strength value.

8.2.2 SAMPLE CALCULATIONS

Type of foundation : Isolated / Strip
 Depth of foundation : 2.0 m. Below existing
 ground level
 Width of foundation : 3.0 m.

I. SETTLEMENT CRITERIA (AS PER IS-8009, PART-1, 1976)

| | |
|---------------------------------------|-------------------------|
| Weighted Average minimum | |
| Corrected 'N' value | = 12.5 |
| Settlement undergone by footing per | |
| unit pressure | = 25.1 mm |
| Settlement undergone by footing per | |
| Unit pressure considering water table | |
| Correction factor taken as 0.5 for | |
| Worst condition | = 50.2 mm |
| Allowable bearing pressure | |
| Corresponding to 50 mm allowable | |
| Settlement (depth factor =0.96) | = 10.4 T/m ² |

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II. SHEAR FAILURE CRITERION

The bearing capacity equation is as follows :

$$Q_{\text{net safe}} = (1/FS) \{ c N_c \zeta_c d_c + q (N_q - 1) \zeta_q d_q + 0.5 B \gamma N_y \zeta_y d_y R_w \}$$

| where: | | | | | | | | | |
|--------|-----------------------------|--|--|------|----------------------|--|--|--|--|
| | $Q_{\text{net safe}}$ | = safe net bearing capacity | | c | = cohesion intercept | | | | |
| | q | = overburden pressure | | B | = Foundation width | | | | |
| | γ | = Bulk density of soil below founding level | | | | | | | |
| | R_w | = Water table correction factor | | FS | = Factor of safety | | | | |
| | N_c, N_q, N_y | = bearing capacity factors, which are a function of ϕ | | | | | | | |
| | d_c, d_q, d_y | = Depth factors | | | | | | | |
| | $\zeta_c, \zeta_q, \zeta_y$ | = Shape factors | | | | | | | |

Cohesion , $c = 0.0 \text{ T/m}^2$

Angle of shearing resistance, $\phi = 30 \text{ degrees}$

Bearing Capacity factors

| | | | | | | |
|-------------------------|---------|-------|---------|-------|---------|-------|
| General Shear Failure : | $N_c =$ | 30.14 | $N_q =$ | 18.40 | $N_y =$ | 22.40 |
| Local Shear Failure : | $N_c =$ | 15.87 | $N_q =$ | 7.11 | $N_y =$ | 6.24 |

Overburden density , $\gamma = 1.70 \text{ gms./cc}$

Net Safe Bearing Capacity , $Q = 14.1 \text{ T/m}^2$ (considering average of local and general shear)

III. RECOMMENDATIONS

Adopt $Q = 10.4 \text{ T/m}^2$

Similar analysis has been conducted for various widths at different levels for both types of foundations.

Based upon the same, the recommendations are being provided as follows:

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8.2.3 RECOMMENDATIONS FOR CLUB HOUSE

The following table presents our recommended values of net allowable bearing pressure for Open Spread foundation/strip footings bearing at or below 2.0 m depth below the existing ground surface for 1-4 m wide foundations for 50 mm settlement.

| Depth (m) | Recommended Net Allowable Bearing Pressure (T/sq.m.) |
|-----------|--|
| 2.0 | 10.4 |
| 2.5 | 12.0 |
| 3.0 | 13.5 |

For intermediate foundation depths, bearing capacity values may be linearly interpolated. These values include a Safety Factor of 2.5.

However, it should be ensured that the foundation is seated at-least 0.5 m into natural soil below fill strata.

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8.3 RAFT FOUNDATION FOR DOUBLE/TRIPLE BASEMENT

The following table presents our recommended values of net allowable bearing pressures, gross allowable bearing pressures and modulus of sub grade reaction values for raft foundations bearing at 7.0 m & 10.0 m depth for 50 mm and 75 mm settlement.

| Foundatio n Depth, m | Recommended Net Allowable Bearing Pressure, T/m ² | | Gross Allowable Bearing Pressure, T/m ² | | Modulus of Sub grade reaction, Kg/cm ² |
|----------------------------|--|---------------------|--|---------------------|--|
| | Settlement 50mm. | Settlement 75mm. | Settlement 50mm. | Settlement 75mm. | |
| 7.0 | 20.0 | 24.0 | 28.2 | 32.2 | 2.0 |
| 10.0 | 25.0 | 29.0 | 35.0 | 39.0 | 2.2 |

For intermediate foundation depths, bearing capacity values may be linearly interpolated. These values include a Safety Factor of 2.5.

9.0 INTERPRETATION OF ELECTRICAL RESISTIVITY TEST

One Electrical resistivity test (ERT-1) was conducted at the site as per IS : 3043-1987 . The test was conducted using the Wenner configuration along different directions at various electrode spacings ranging from 1 to 12 m.

The average apparent resistivity values are presented graphically and also tabulated on Fig.25. The test results are also tabulated below:

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| Electrode Spacing, m | Average Resistivity, ohm-m ERT-1 |
|----------------------|-------------------------------------|
| 1.0 | 18.5 |
| 3.0 | 20.6 |
| 5.0 | 15.8 |
| 7.0 | 16.4 |
| 10.0 | 13.5 |
| 12.0 | 12.6 |

These resistivity data are used as an indicator for potential for corrosion of buried metallic pipes and other utility lines.

10.0 CALIFORNIA BEARING RATIO (CBR) TEST RESULT

Field CBR test results are presented below:

| CBR No. | Soil Description | Field CBR Value | | Recommended Value of CBR |
|---------|------------------|-----------------|------|--------------------------|
| | | Un-soaked | | |
| CBR-1 | Silty Sand | 2.5mm | 16.2 | 13.8 |
| | | 5.0mm | 13.8 | |

11.0 CHEMICAL TEST RESULTS

Chemical test results on soil and groundwater are presented in our report on sheet no.26. The results indicate that the soils contain sulphate in the range of 0.11 to 0.13 percent and chlorides 0.02 to 0.03 percent. The pH value of soil is between 8.1 to 8.4 indicating slightly alkaline conditions. The groundwater at the site met at 7.5-7.7 m depth. It contains 345 to 380 mg/litre of sulphates and 420 to 480 mg/litre of chloride. The pH value of groundwater is between 7.3-7.5 indicating near neutral condition.

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IS:456-2000 recommends that precautions should be taken against chemical degradation of concrete if the sulphates content of the soils exceeds 0.2 percent or if the groundwater contains more than 300 mg per litre of sulphates (SO_3).

Comparing the test results with the specified limits in IS 456-2000, the sulphate content of the soils is less than the specified limits; however, the sulphate content of groundwater is above the specified limit. Considering the potential for rise of groundwater level, the strata at the site may be treated to be in Class 2 classification as described on IS 456-2000, which indicates a moderate potential for corrosion.

Therefore, in our opinion, the groundwater is marginally aggressive to concrete. We recommend the following measures to limit the potential for chemical attack:

- (1) Concrete for open foundations should contain a minimum cement content of 330 kg/m^3 of cement. For piles, minimum cement content of 400 kg/m^3 may be used. Ordinary Portland cement may be used for concrete.
- (2) Water cement ratio in foundation concrete should be in the range of 0.50 to 0.55.
- (3) A clear concrete cover over the reinforcement steel of at least 50 mm should be provided for all foundations.

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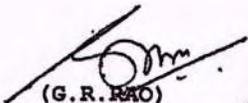
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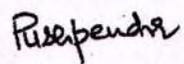
12.0 CLOSURE

We appreciate the opportunity to perform this investigation for you and have pleasure in submitting this report. Please contact us when we can be of further service to you.

For RAO ENGINEERING ENTERPRISES

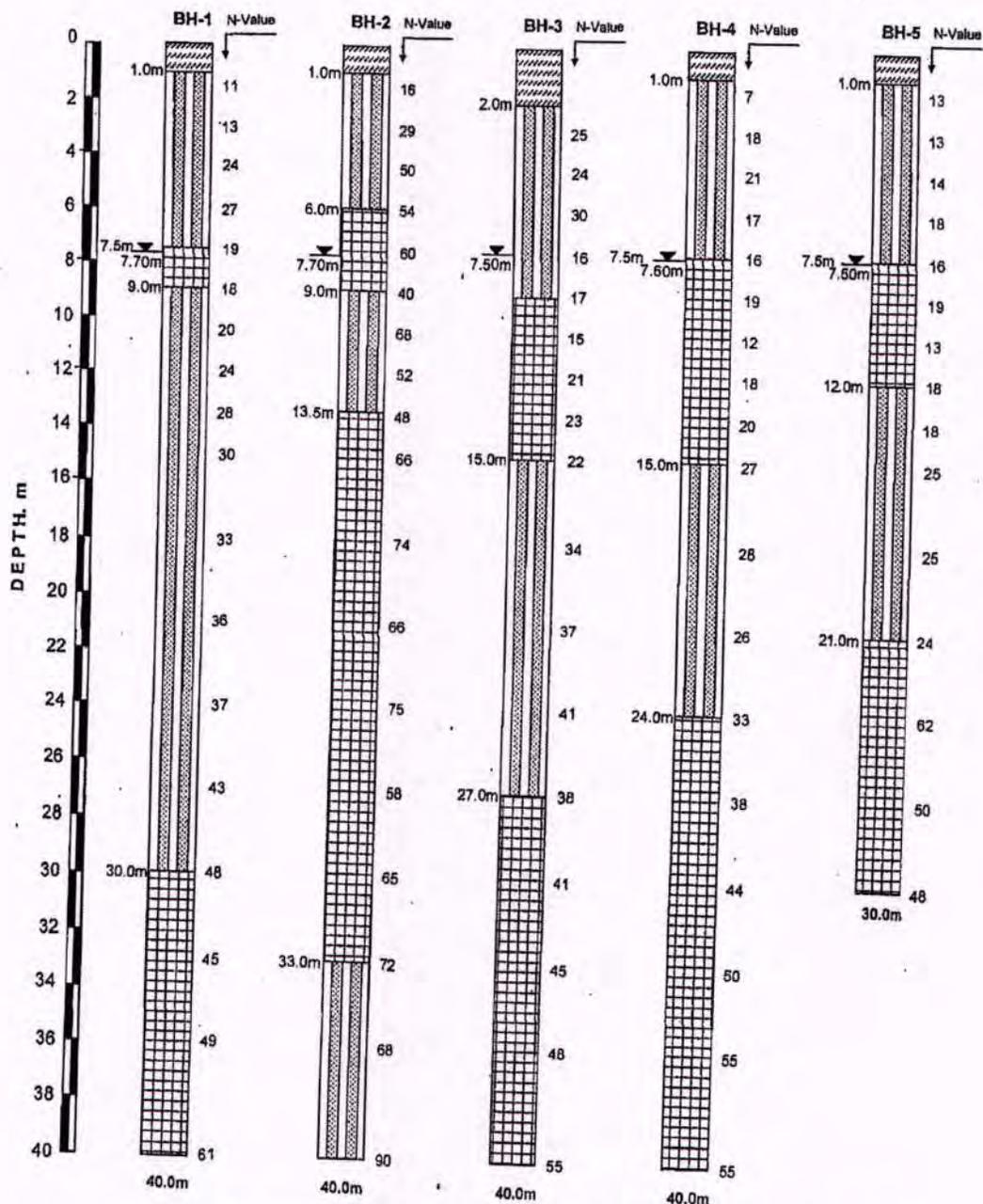

(G.R. RAO)
DIRECTOR




(PUSHPENDRA KUMAR)
EXECUTIVE DIRECTOR

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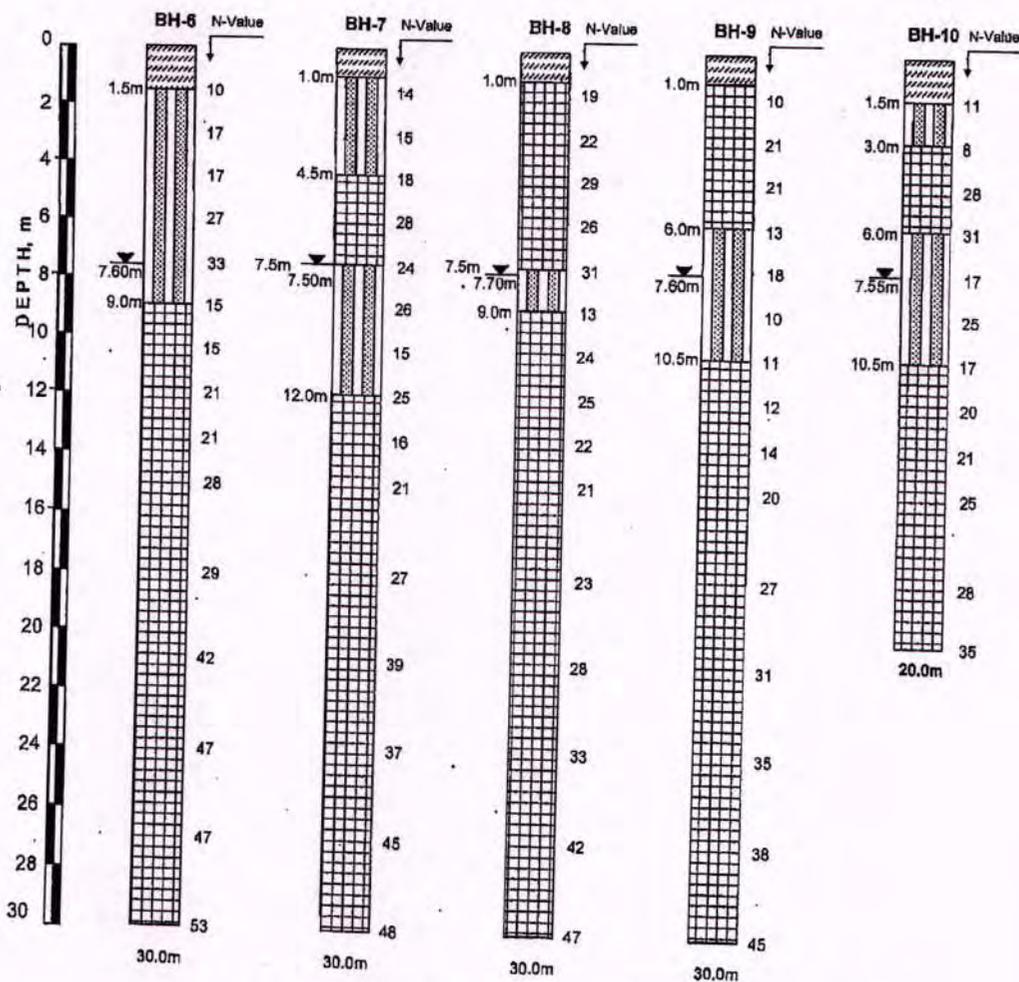
SUMMARY OF BOREHOLE PROFILE

| LEGEND | |
|--------|----------------------|
| SYMBOL | DESCRIPTION |
| | Silty Sand/Fine Sand |
| | Sandy Silt |
| | Fill |
| | Water Table |

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1.3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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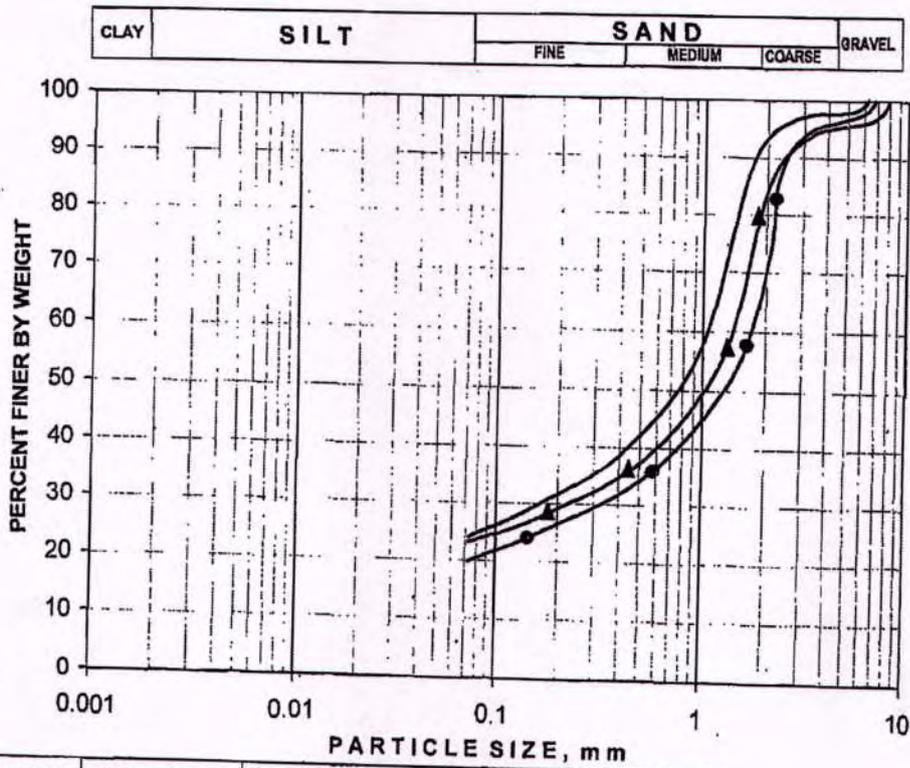
SUMMARY OF BOREHOLE PROFILE

| LEGEND | |
|--------|----------------------|
| SYMBOL | DESCRIPTION |
| | Silty Sand/Fine Sand |
| | Sandy Silt |
| | Fill |
| | Water Table |

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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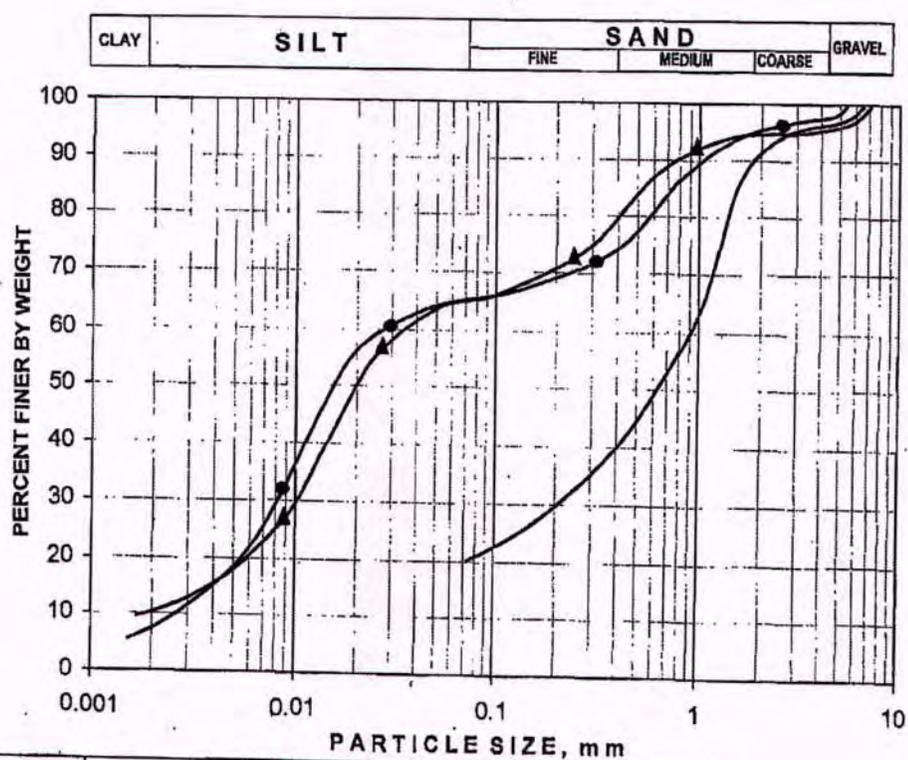
| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAVEL % | SAND % | SILT % | CLAY % |
|--------|--------------|-------------|----------|--------|--------|--------|
| | 1/1.5 | Silty sand | 2 | 75 | 23 | 0 |
| ●—● | 1/6.0 | Silty sand | 4 | 76 | 20 | 0 |
| ▲—▲ | 1/12.0 | Silty sand | 5 | 73 | 22 | 0 |

GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAVEL % | SAND % | SILT % | CLAY % |
|--------|--------------|-------------|-------------|-----------|-----------|-----------|
| | 1/18.0 | Silty sand | 3 | 77 | 20 | 0 |
| ●—● | 1/33.0 | Sandy silt | 2 | 32 | 57 | 9 |
| ▲—▲ | 1/40.0 | Sandy silt | 4 | 30 | 56 | 10 |

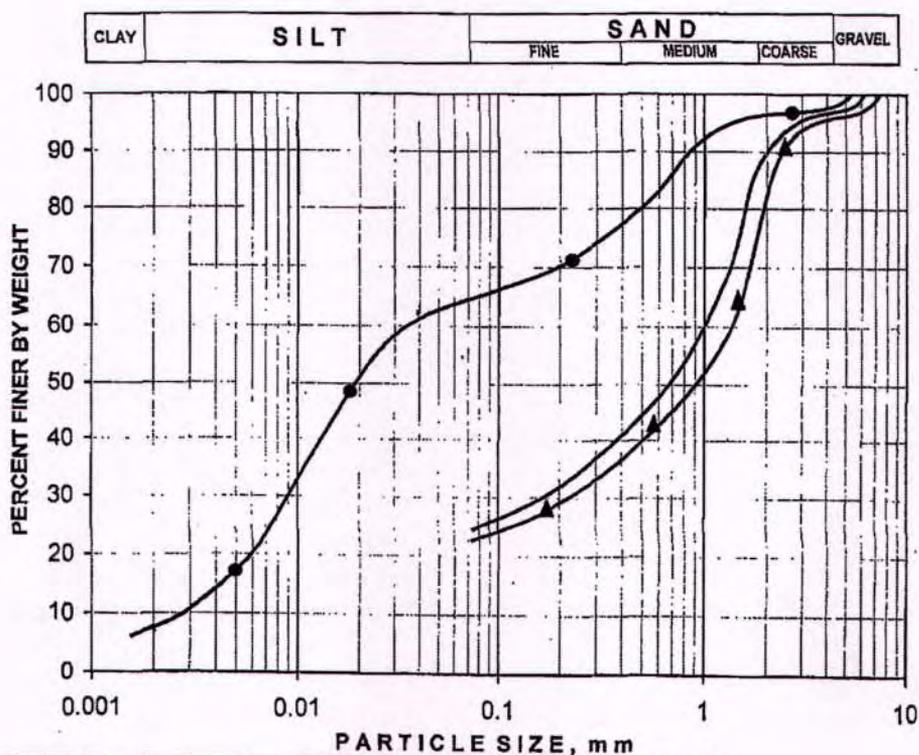
GRAIN SIZE ANALYSIS

**DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY
LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.**

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| SYMBOL | BH.NO/DEPTH. | DESCRIPTION, | GRAVEL % | SAND % | SILT % | CLAY % |
|--------|--------------|--------------|----------|--------|--------|--------|
| □—□ | 2/3.0 | Silty sand | 3 | 73 | 24 | 0 |
| ●—● | 2/7.5 | Sandy silt | 2 | 34 | 56 | 8 |
| ▲—▲ | 2/10.5 | Silty sand | 4 | 74 | 22 | 0 |

GRAIN SIZE ANALYSIS

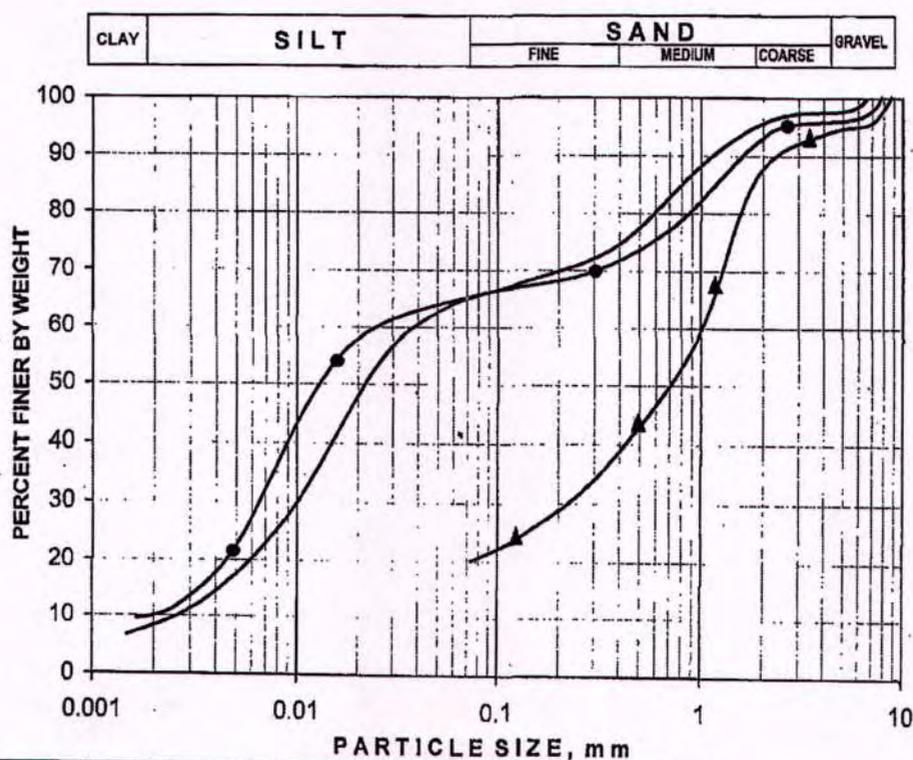
DEVELOPMENT OF GROUP HOUSING SCHEME AT 1.3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAIN SIZE ANALYSIS | | | |
|--------|--------------|-------------|---------------------|--------|--------|--------|
| | | | GRAVEL % | SAND % | SILT % | CLAY % |
| | 2/24.0 | Sandy silt | 2 | 32 | 57 | 9 |
| ●—● | 2/30.0 | Sandy silt | 4 | 31 | 56 | 10 |
| ▲—▲ | 2/36.0 | Silty sand | 6 | 74 | 20 | 0 |

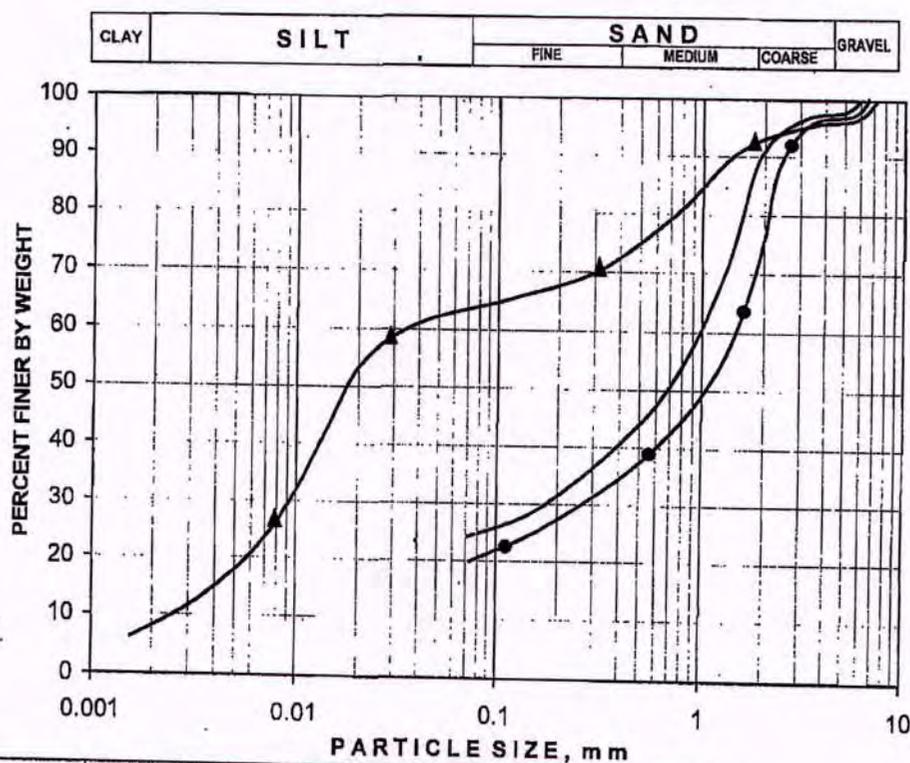
GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

425

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| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAVEL % | SAND % | SILT % | CLAY % |
|--------|--------------|-------------|----------|--------|--------|--------|
| | 3/3.0 | Silty sand | 2 | 74 | 24 | 0 |
| ●—● | 3/6.0 | Silty sand | 3 | 77 | 20 | 0 |
| ▲—▲ | 3/13.5 | Sandy silt | 4 | 33 | 55 | 8 |

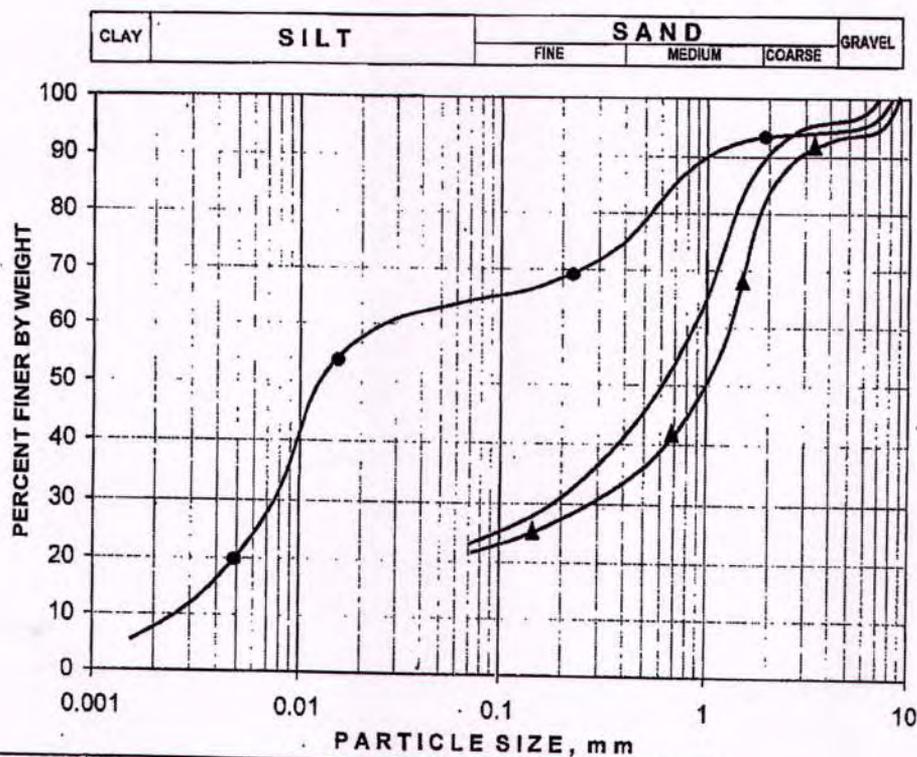
GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAVEL % | SAND % | SILT % | CLAY % |
|--------|--------------|-------------|----------|--------|--------|--------|
| □ | 3/24.0 | Silty sand | 4 | 74 | 22 | 0 |
| ● | 3/33.0 | Sandy silt | 6 | 31 | 54 | 9 |
| ▲ | 3/40.0 | Silty sand | 8 | 77 | 21 | 0 |

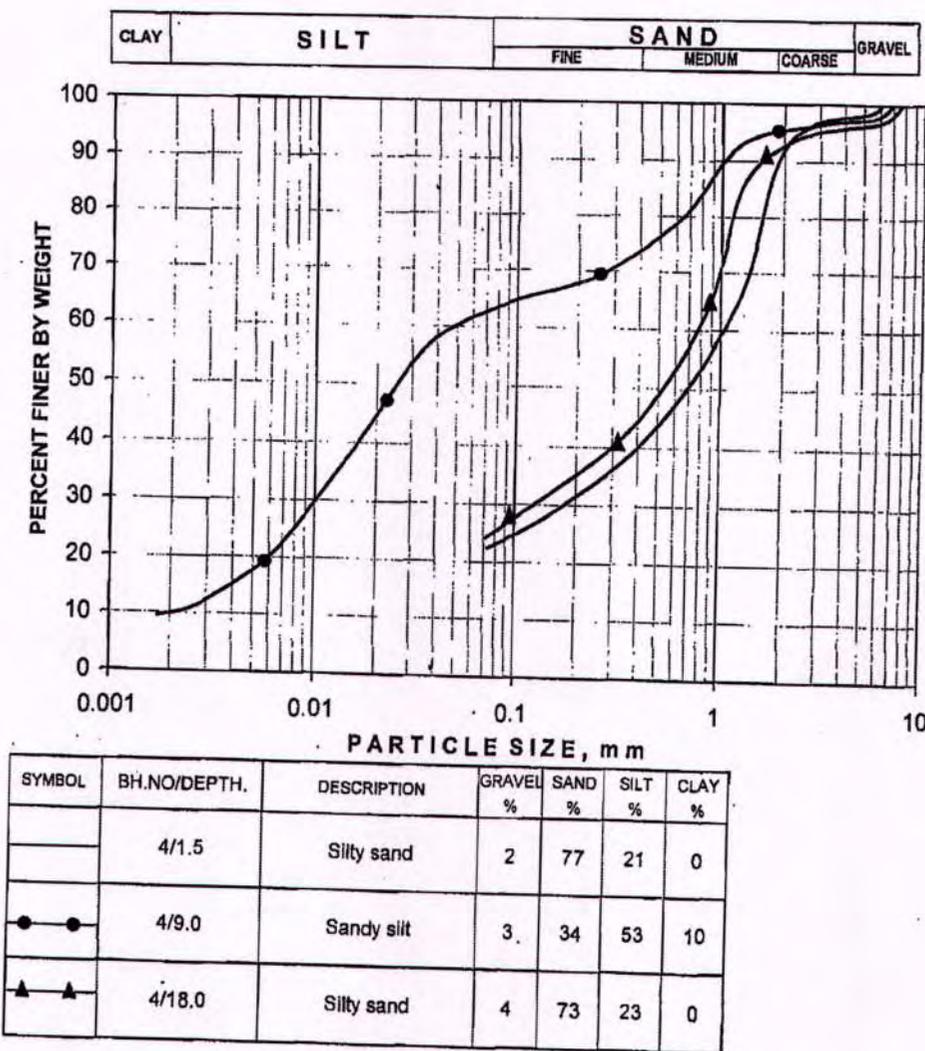
GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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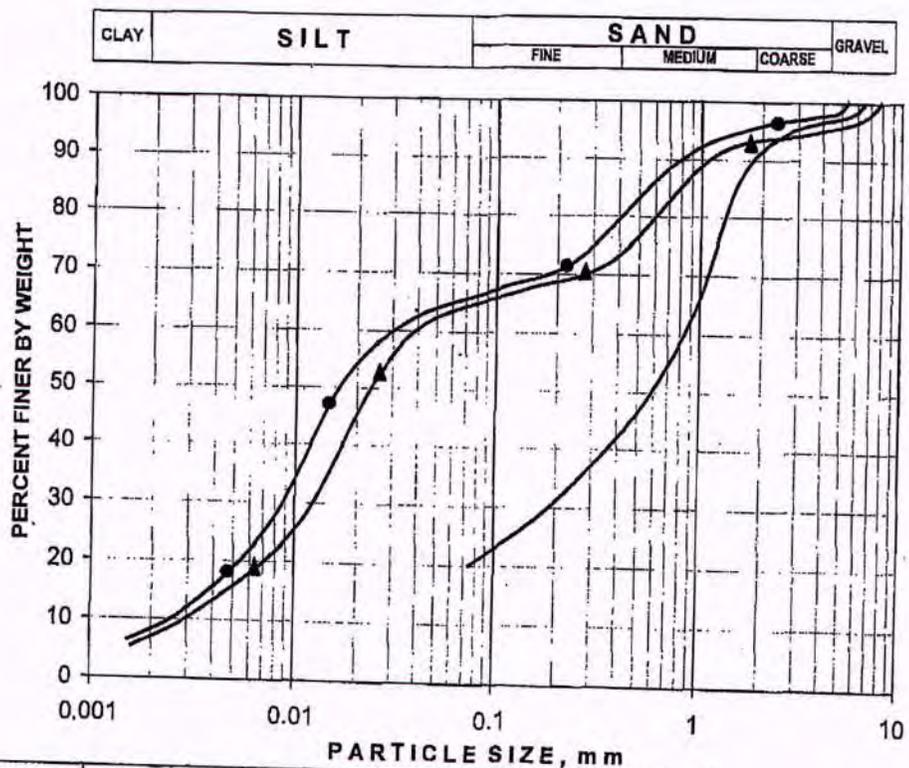


GRAIN SIZE ANALYSIS

**DEVELOPMENT OF GROUP HOUSING SCHEME AT 1.3 CAVALARY
LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.**

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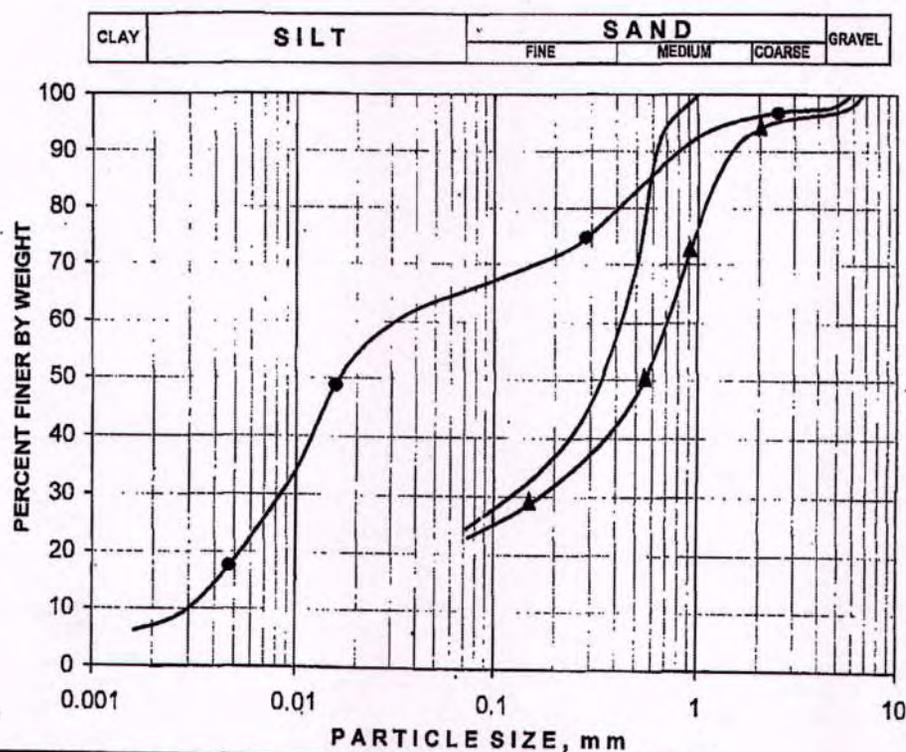
| SYMBOL | BH.NO/DEPTH. | DESCRIPTION- | PARTICLE SIZE, mm | | | |
|--------|--------------|--------------|-------------------|--------|--------|--------|
| | | | GRAVEL % | SAND % | SILT % | CLAY % |
| | 4/21.0 | Silty sand | 3 | 77 | 20 | 0 |
| ●—● | 4/27.0 | Sandy silt | 2 | 32 | 57 | 9 |
| ▲—▲ | 4/36.0 | Sandy silt | 5 | 30 | 57 | 8 |

GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1.3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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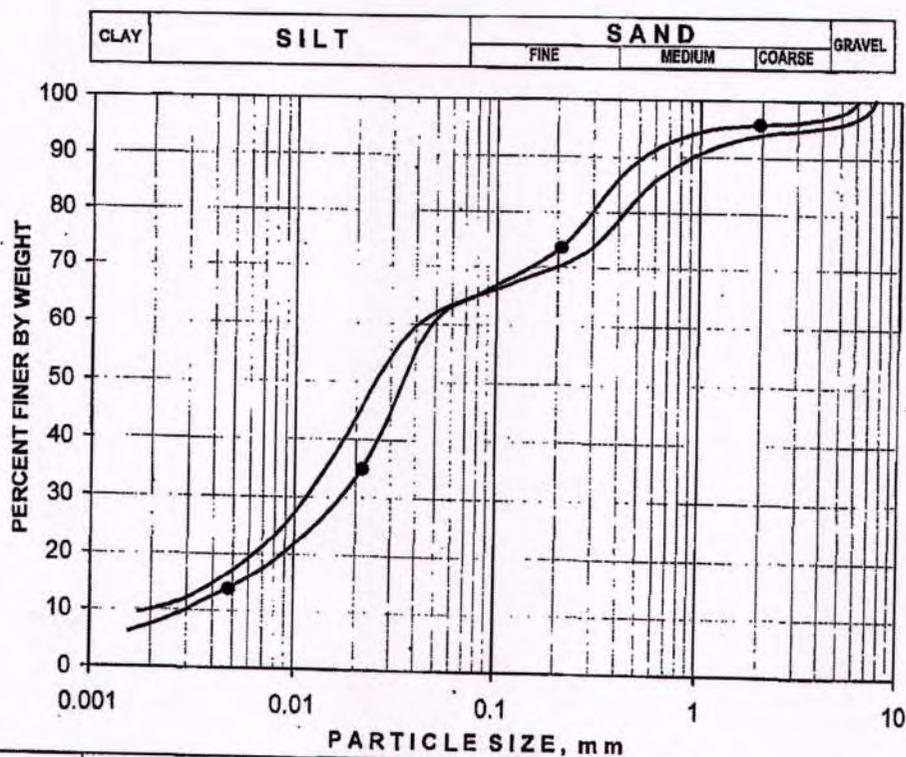
| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAVEL | SAND | SILT | CLAY |
|--------|--------------|-------------|--------|------|------|------|
| | | | % | % | % | % |
| | 5/3.0 | Silty sand | 0 | 75 | 25 | 0 |
| ●—● | 5/10.5 | Sandy silt | 2 | 32 | 58 | 8 |
| ▲—▲ | 5/15.0 | Silty sand | 3 | 74 | 23 | 0 |

GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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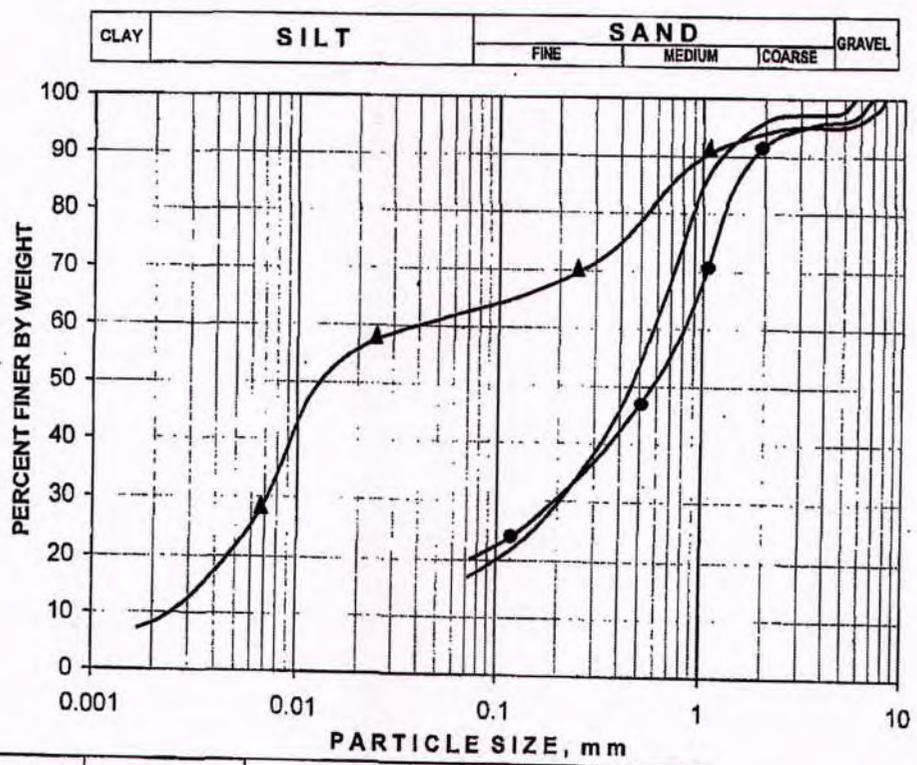
| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAVEL | SAND | SILT | CLAY |
|--------|--------------|-------------|--------|------|------|------|
| | | | % | % | % | % |
| | 5/24.0 | Silly sand | 5 | 30 | 55 | 10 |
| ●—● | 5/30.0 | Sandy silt | 3 | 32 | 57 | 8 |

GRAIN SIZE ANALYSIS

**DEVELOPMENT OF GROUP HOUSING SCHEME AT 1.3 CAVALARY
LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.**

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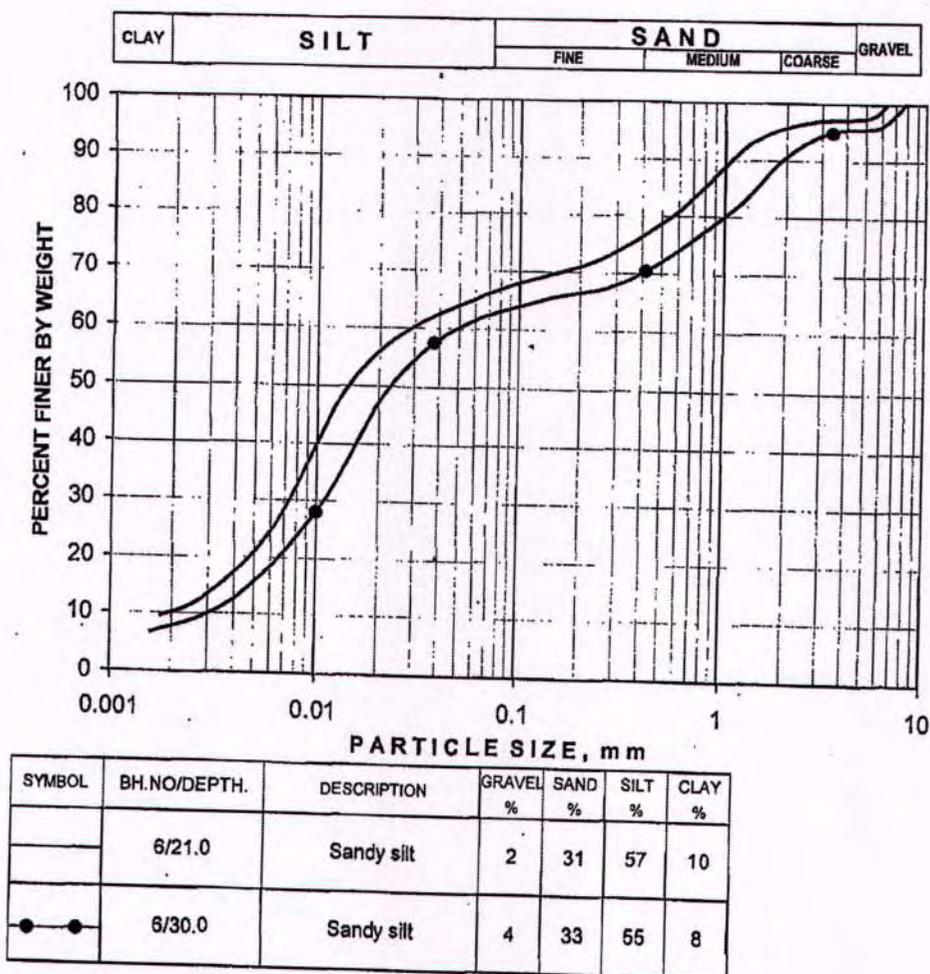
| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAVEL | SAND | SILT | CLAY |
|--------|--------------|-------------|--------|------|------|------|
| | | | % | % | % | % |
| | 6/1.5 | Silty sand | 2 | 79 | 19 | 0 |
| ●—● | 6/7.5 | Silty sand | 4 | 76 | 20 | 0 |
| ▲—▲ | 6/12.0 | Sandy silt | 5 | 33 | 53 | 9 |

GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1.3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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18B

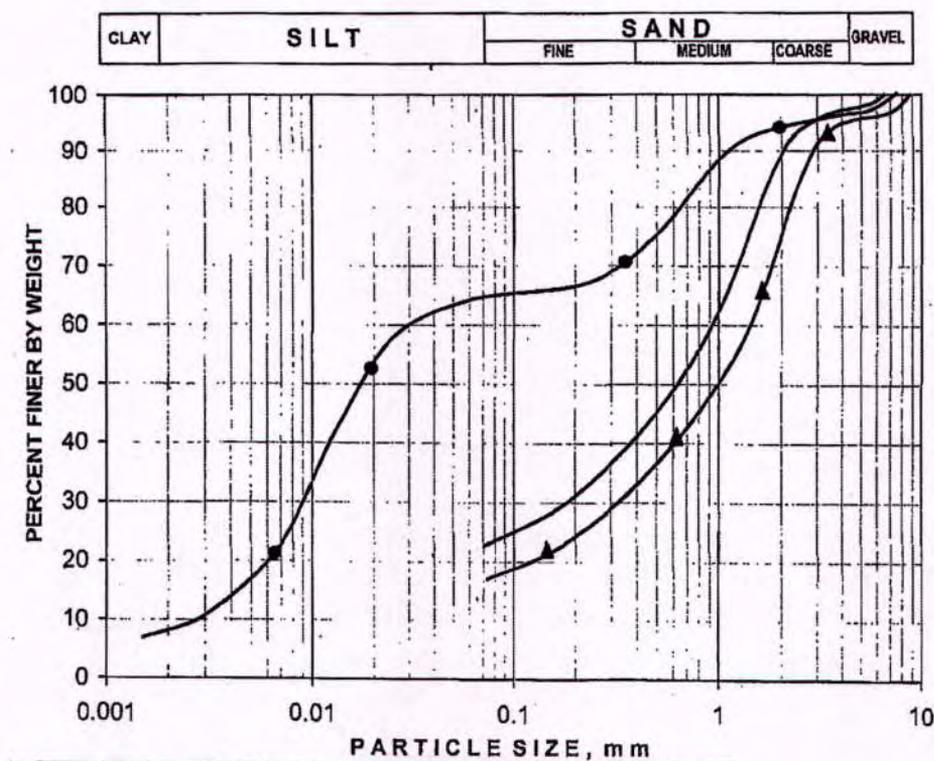


GRAIN SIZE ANALYSIS

**DEVELOPMENT OF GROUP HOUSING SCHEME AT 1.3 CAVALARY
LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.**

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| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAVEL | SAND | SILT | CLAY |
|--------|--------------|-------------|--------|------|------|------|
| | | | % | % | % | % |
| | 7/3.0 | Silty sand | 2 | 76 | 22 | 0 |
| ●—● | 7/6.0 | Sandy silt | 3 | 32 | 56 | 9 |
| ▲—▲ | 7/9.0 | Silty sand | 5 | 77 | 18 | 0 |

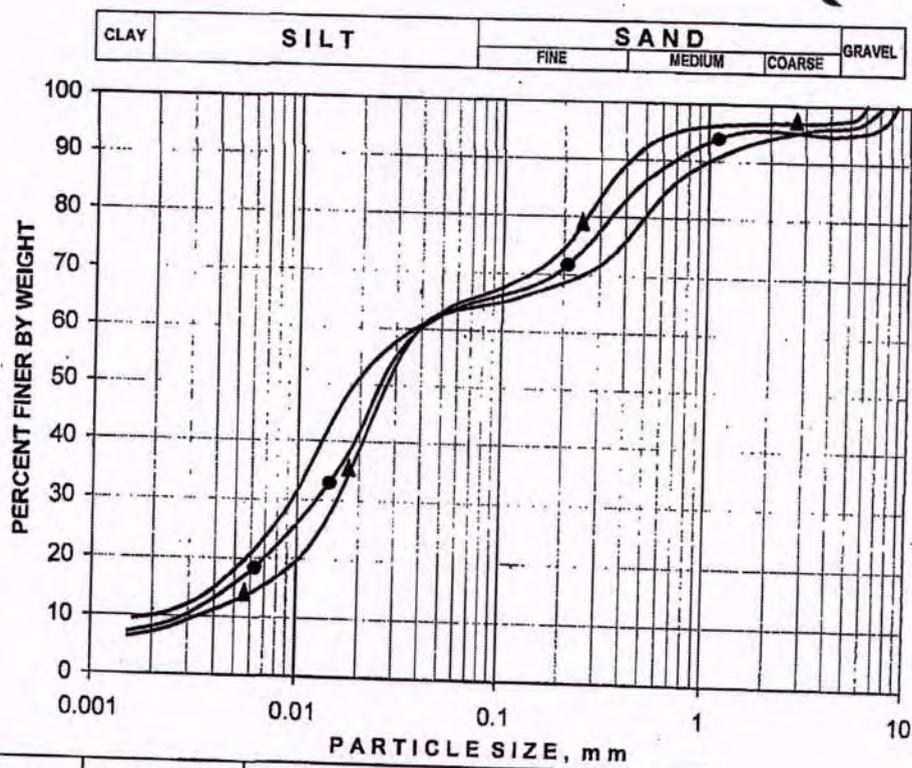
GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1.3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAIN SIZE ANALYSIS | | | |
|--------|--------------|-------------|---------------------|--------|--------|--------|
| | | | GRAVEL % | SAND % | SILT % | CLAY % |
| | 7/15.0 | Sandy silt | 4 | 32 | 54 | 10 |
| ●—● | 7/18.0 | Sandy silt | 6 | 29 | 56 | 9 |
| ▲—▲ | 7/27.0 | Sandy silt | 3 | 31 | 58 | 8 |

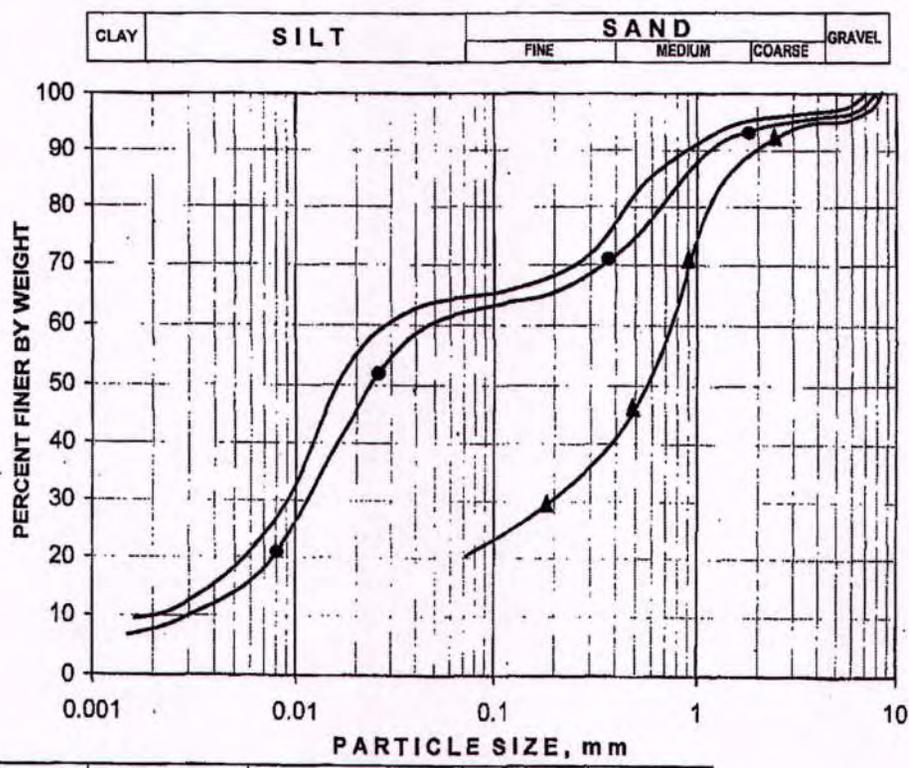
GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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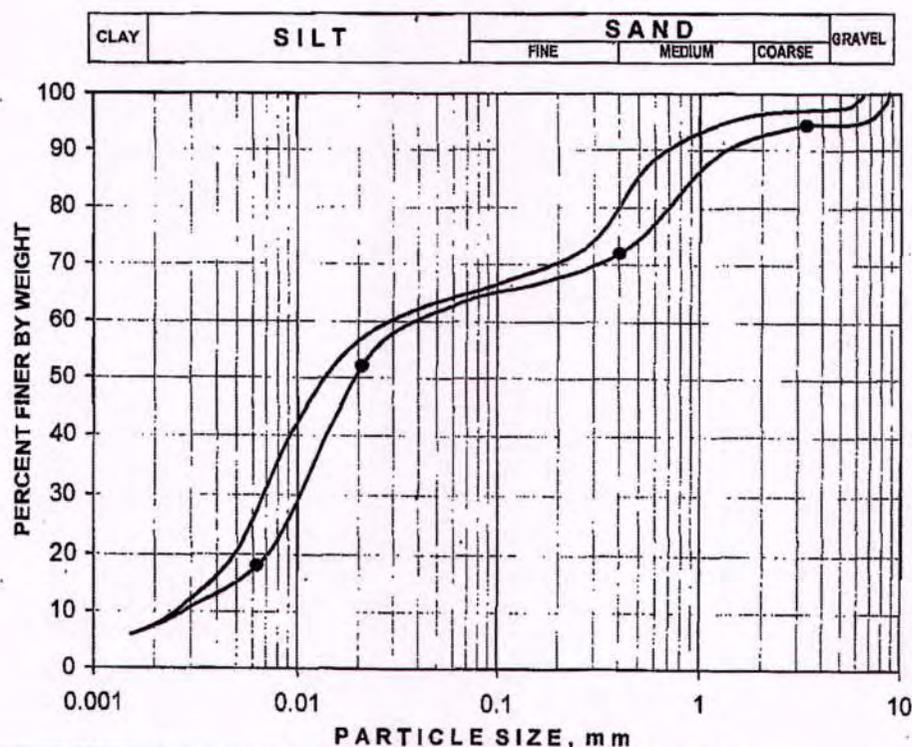
| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAIN SIZE ANALYSIS | | | |
|--------|--------------|-------------|---------------------|--------|--------|--------|
| | | | GRAVEL % | SAND % | SILT % | CLAY % |
| | 8/1.5 | Sandy silt | 3 | 32 | 55 | 10 |
| ●—● | 8/6.0 | Sandy silt | 4 | 34 | 54 | 8 |
| ▲—▲ | 8/8.25 | Silty sand | 5 | 75 | 20 | 0 |

GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAVEL % | SAND % | SILT % | CLAY % |
|--------|--------------|-------------|----------|--------|--------|--------|
| | 8/15.0 | Sandy silt | 2 | 33 | 56 | 9 |
| ●—● | 8/30.0 | Sandy silt | 6 | 30 | 55 | 9 |

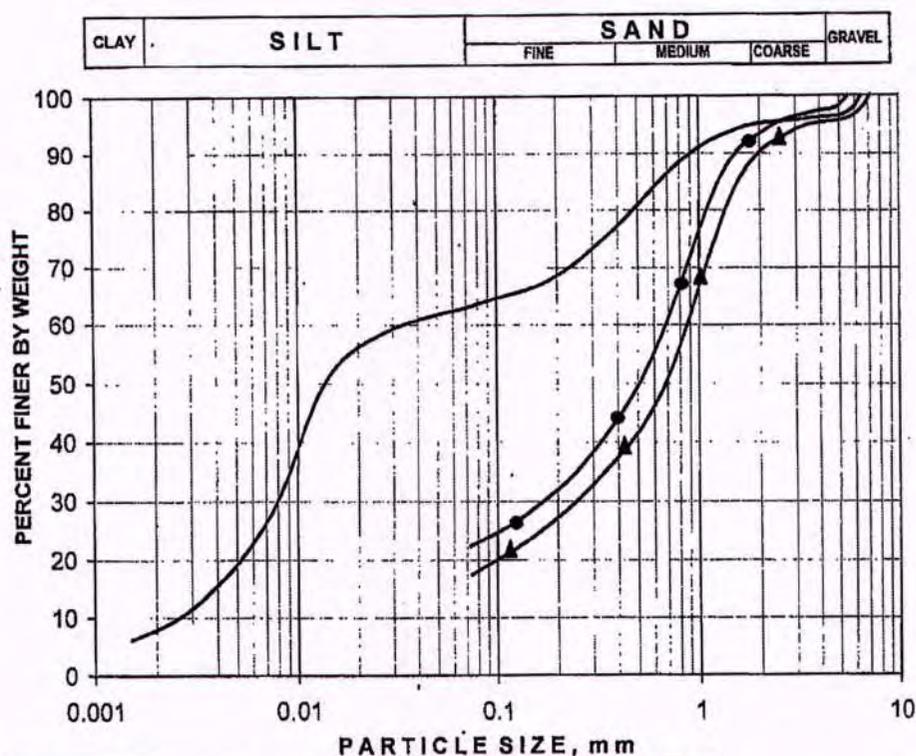
GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1.3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAVEL % | SAND % | SILT % | CLAY % |
|--------|--------------|-------------|----------|--------|--------|--------|
| | 9/3.0 | Sandy silt | 3 | 34 | 55 | 8 |
| ●—● | 9/7.5 | Silty sand | 2 | 76 | 22 | 0 |
| ▲—▲ | 9/9.0 | Silty sand | 4 | 77 | 19 | 0 |

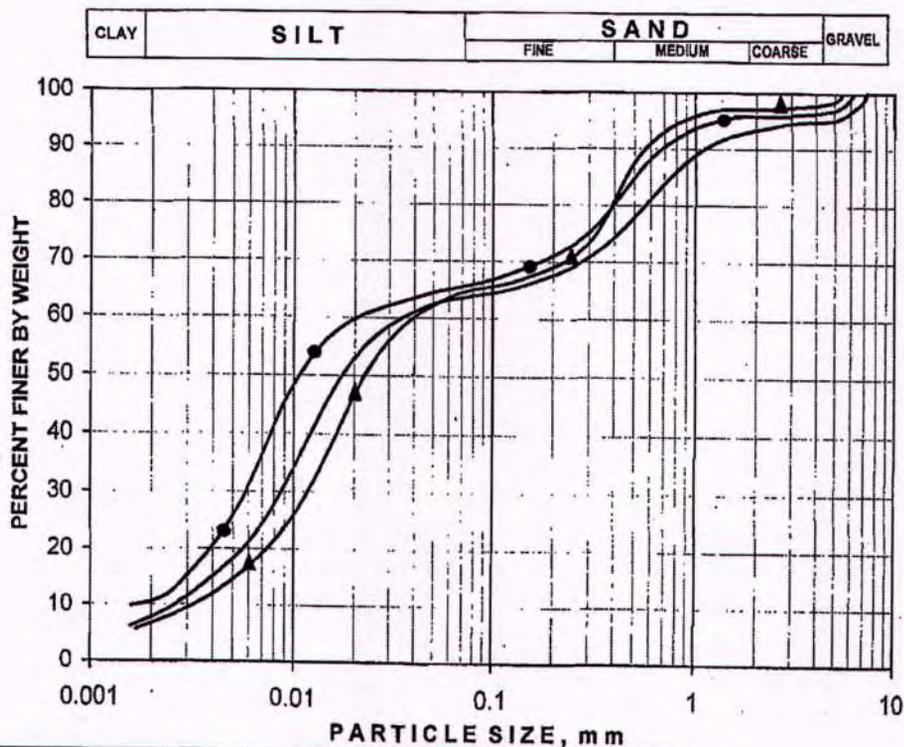
GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1.3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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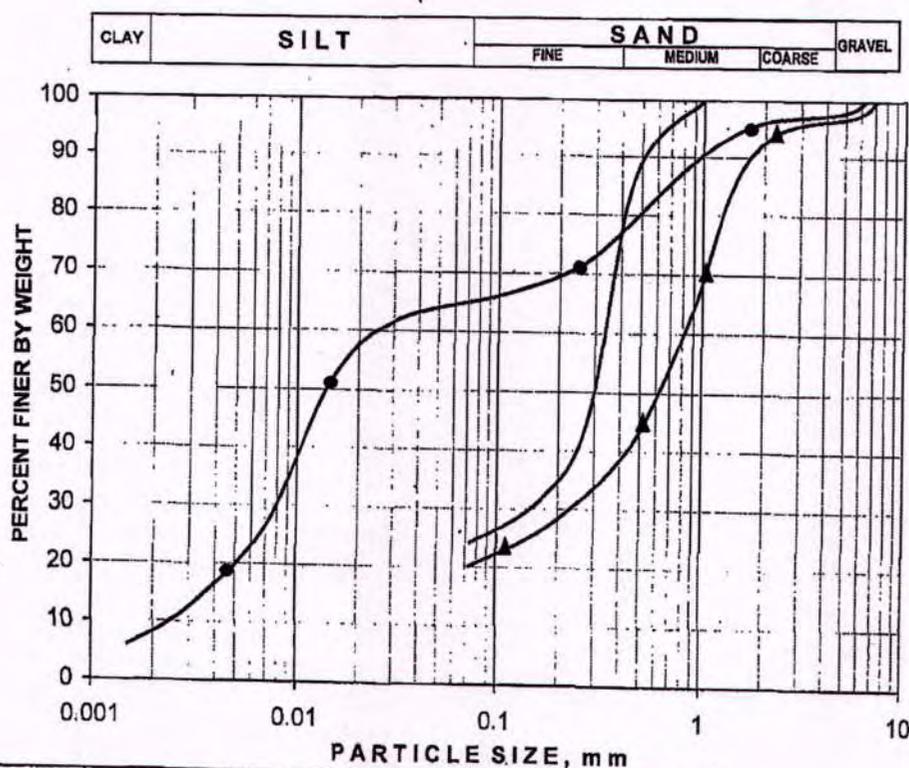
| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAVEL % | SAND % | SILT % | CLAY % |
|--------|--------------|-------------|----------|--------|--------|--------|
| | 9/15.0 | Sandy silt | 6 | 31 | 54 | 9 |
| ● ● | 9/24.0 | Sandy silt | 4 | 30 | 56 | 10 |
| ▲ ▲ | 9/30.0 | Sandy silt | 2 | 33 | 57 | 8 |

GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1.3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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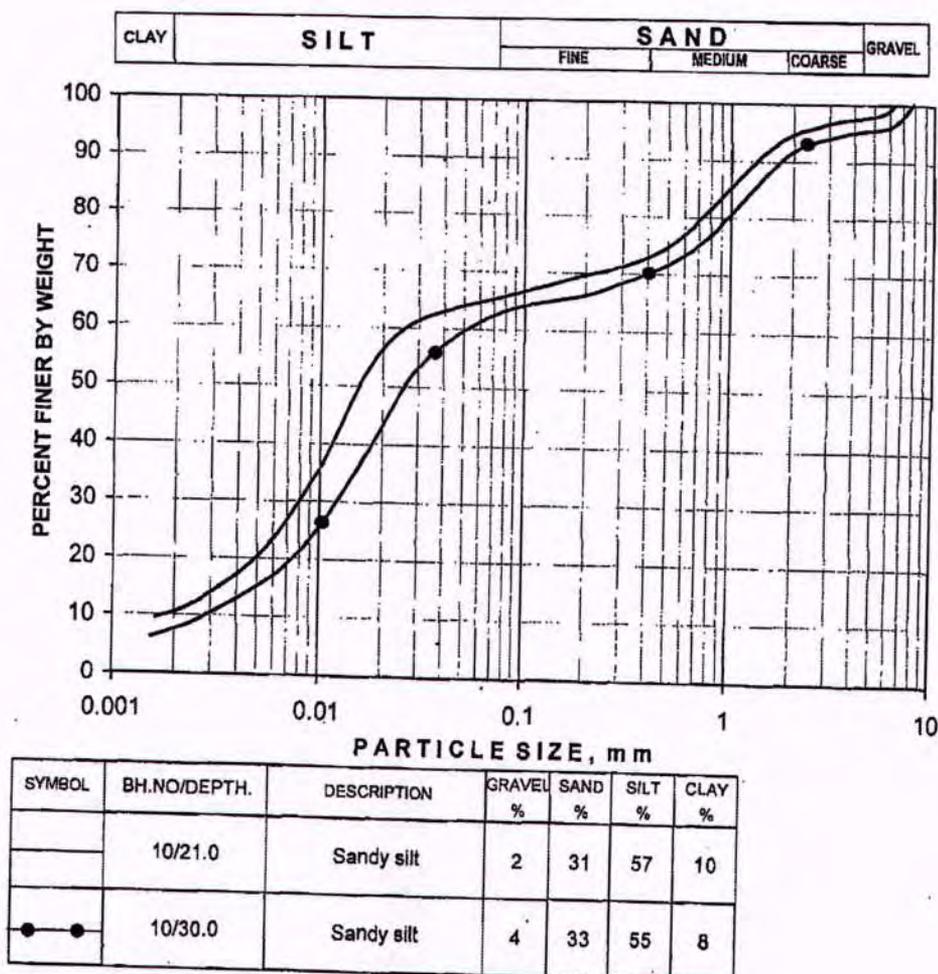


| SYMBOL | BH.NO/DEPTH. | DESCRIPTION | GRAIN SIZE ANALYSIS | | | |
|--------|--------------|-------------|---------------------|--------|--------|--------|
| | | | GRAVEL % | SAND % | SILT % | CLAY % |
| □ | 10/1.5 | Silty sand | 0 | 76 | 24 | 0 |
| ● | 10/4.5 | Sandy silt | 2 | 32 | 57 | 9 |
| ▲ | 10/9.0 | Silty sand | 3 | 77 | 20 | 0 |

GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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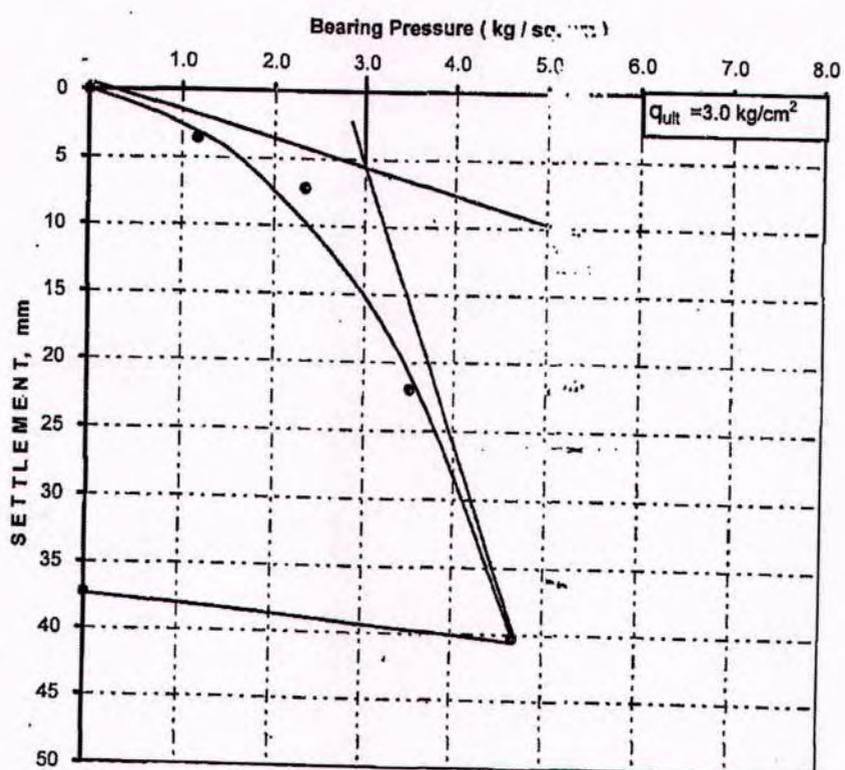


GRAIN SIZE ANALYSIS

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1.3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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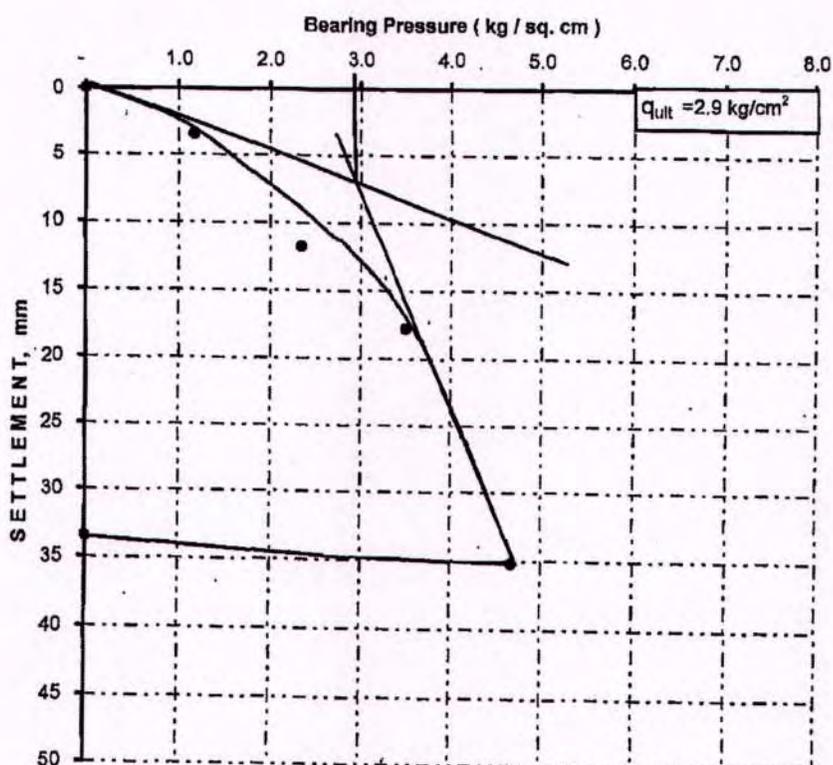
~~142~~**PLATE LOAD TEST NO.1**

| | |
|------------------|---------------|
| Size of Plate | : 60cm x 60cm |
| Depth of Test, m | : 2.0 m |

**DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY
LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.**

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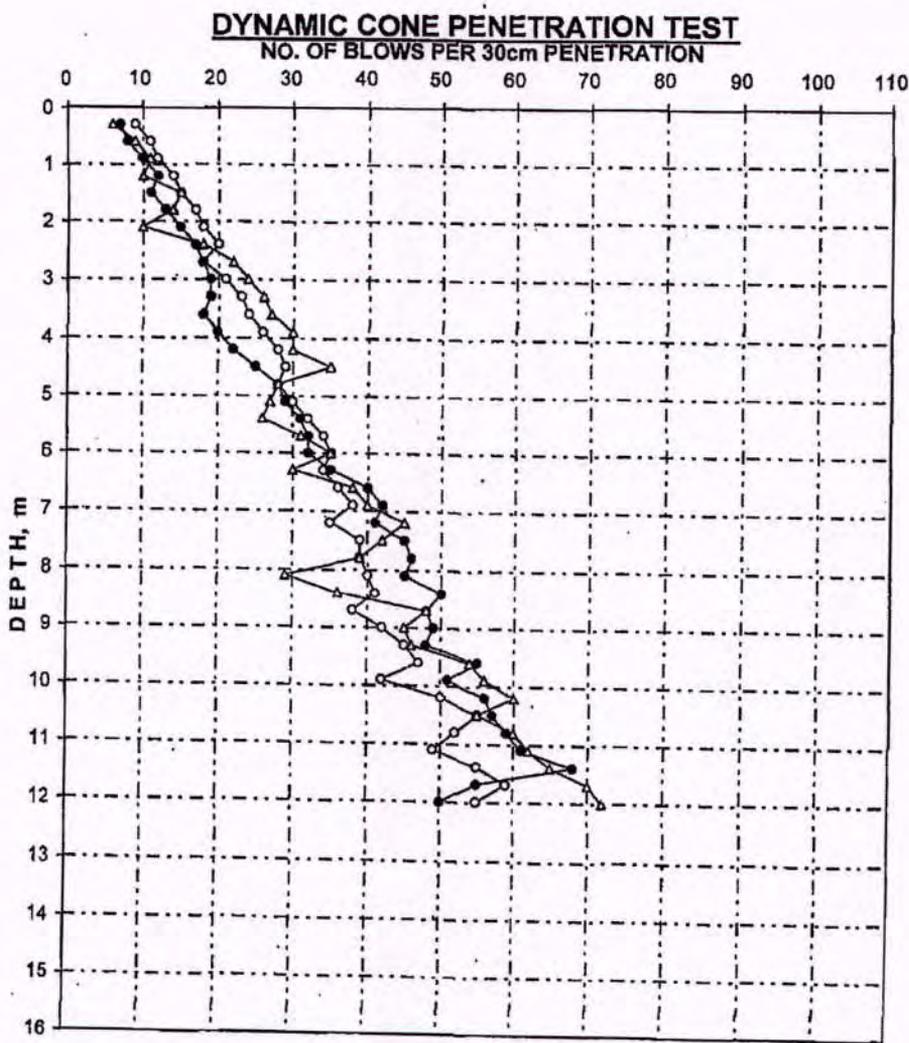
~~183~~PLATE LOAD TEST NO.2

| | |
|-----------------|---------------|
| Size of Plate | : 60cm x 60cm |
| Depth of Test,m | : 2.0 m |

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY
LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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| LEGEND | |
|--------|----------|
| Symbol | DCPT No. |
| ○ | A |
| ● | B |
| △ | C |

**DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY LANE
& 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.**

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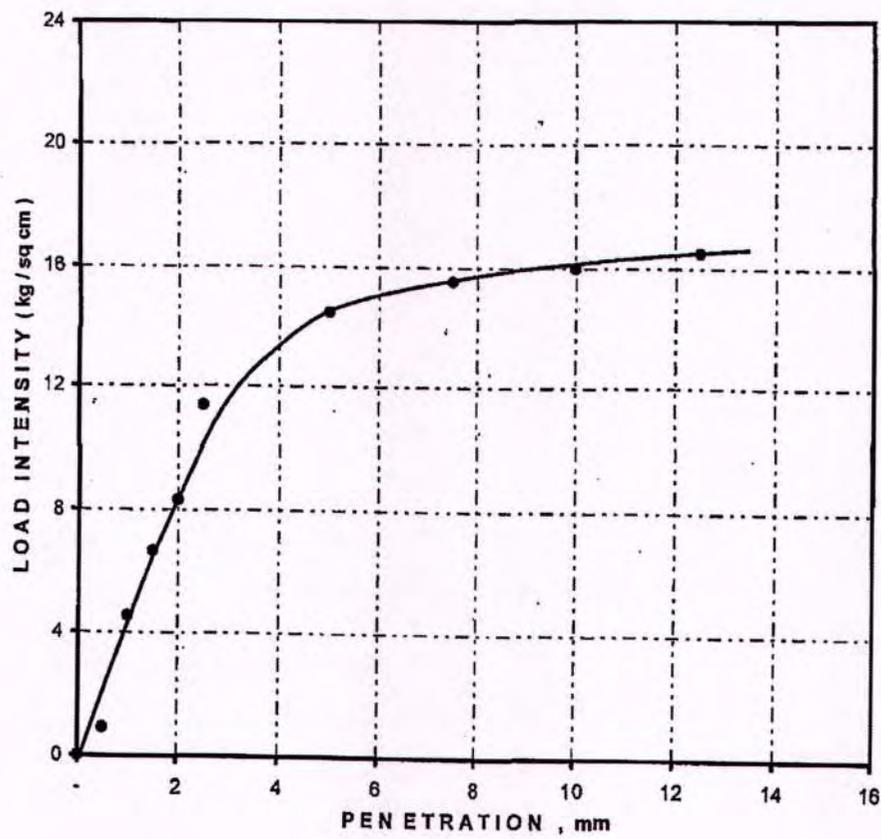
~~105~~

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FIELD CALIFORNIA BEARING RATIO TEST NO. 1

Sample No. 1
 Depth of Test 1.0 m
 Test Condition : Dry

| PENETRATION | CBR Value |
|-------------|-----------|
| 2.5 mm | 16.2 |
| 5.0 mm | 13.8 |



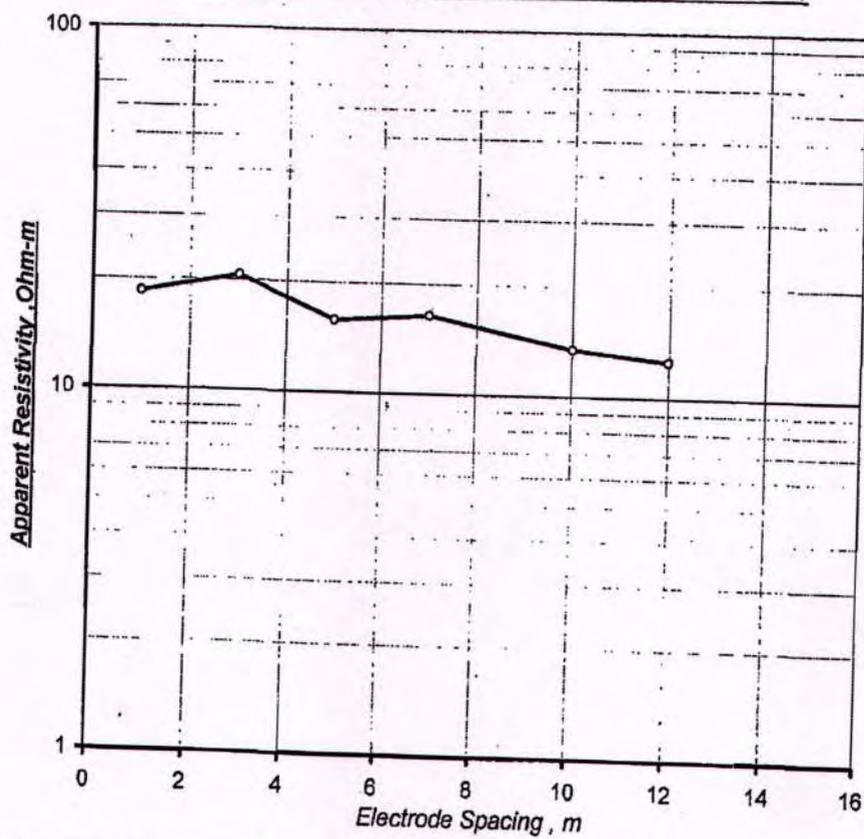
DEVELOPMENT OF GROUP HOUSING SCHEME AT 1.3 CAVALARY LANE
 & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

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RB

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ELECTRICAL RESISTIVITY TEST NO - 1



| Electrode Spacing, m | Apparent Resistivity, Ohm-m |
|----------------------|-----------------------------|
| 1.0 | 18.5 |
| 3.0 | 20.6 |
| 5.0 | 15.8 |
| 7.0 | 16.4 |
| 10.0 | 13.5 |
| 12.0 | 12.6 |

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY
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CHEMICAL TEST RESULTS**SOIL :**

| Borehole No. | Depth, (m) | Sulphate Content, % (SO ₃) | Chloride Content, % | pH Value |
|--------------|------------|--|---------------------|----------|
| 1 | 5.25 | 0.12 | 0.02 | 8.2 |
| 4 | 2.25 | 0.13 | 0.03 | 8.1 |
| 7 | 1.50 | 0.11 | 0.03 | 8.4 |

WATER

| Borehole No. | Sulphate Content mg/l (SO ₃) | Chloride Content, mg/l | pH Value |
|--------------|--|------------------------|----------|
| 1 | 345 | 420 | 7.4 |
| 5 | 361 | 480 | 7.5 |
| 8 | 380 | 440 | 7.3 |

DEVELOPMENT OF GROUP HOUSING SCHEME AT 1,3 CAVALARY LANE & 4, CHHATRA MARG, MALL ROAD, CIVIL LINES, DELHI.

ANNEXURE-36RESTRICTED**GROUND
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SOIL INVESTIGATION & SOIL ANALYSIS
FOR GROUP HOUSING PROJECT NEAR
VISWAVIDYALAYA METRO STATION FOR
YOUNG BUILDERS, NEW DELHI

MARCH, 2018

CLIENT

M/S YOUNG BUILDERS (P) LTD.
43, BABAR ROAD,
NEW DELHI - 110001

GROUND ENGINEERING LIMITED

M-4, ASHIRWAD COMPLEX,
D-1, GREEN PARK, NEW DELHI - 110016
TEL.: 26960516, 26562436, 26960245, 26567583
FAX: 011-26852675, 26514915

E-Mail: ground@ground.in
Website: www.ground.in

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| | List of Figures | (i) |
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| 2.0 | Details of site | 1 |
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| 4.0 | Field Investigations | 2 - 3 |
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| 6.0 | Test Results & Interpretations | 4 - 5 |

A logo for TRUE CO, featuring a stylized signature above the text "TRUE CO".

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LIST OF TABLES

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| 1 | Details of bore hole locations | 6 |
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1.0 INTRODUCTION:

- 1.1 The report presented herein deals with the field and laboratory investigations carried out by us to assess the nature of substratum as per limited scope of work awarded to us for Group Housing Project near Viswavidyalaya Metro Station for M/s. Young Builders, New Delhi.
- 1.2 Client's help is gratefully acknowledged in providing bore hole locations, close supervision and checking during boring, sampling, various testing operations and cooperation and guidance during finalization of report.
- 1.3 The work of Soil Investigation work was awarded to M/s Ground Engineering Limited, M-4, Ashirwad Complex, D-1, Green Park, New Delhi - 110 016, by M/s Young Builders (P) Ltd., 43, Babar Road, New Delhi-110001, vide Ref No.: YBPL/ST/18/001 dated 30.01.2018.

2.0 DETAILS OF SITE:

- 2.1 The details of the site & test locations for the proposed project are shown in figure (1) & table (1). As per IS:1893 the site falls in the seismic zone IV of India.

3.0 SCOPE OF WORK:

The scope of work provided to us for this project was limited to the following: -

- 3.1 Mobilization of equipment and all associated in-situ testing equipment as required to the project site for carrying out the field work, setting up the equipment, shifting of the equipment from one borehole location to other location, carrying out the field investigation on land & demobilization on completion of work.
- 3.2 Making 3 no vertical bore hole of 100 to 150 mm dia. using shell & auger method below existing ground surface to 40.0 m depth through normal soil i.e. sandy, silty, clayey strata (excluding hard/boundary/rocky) or refusal whichever occurs earlier (refusal shall mean when SPT field 'N' value reaches 100 for 30 cm or less penetration of SPT sampler).
- 3.3 Collecting the undisturbed soil samples from each bore hole at 3.0 m interval or change of strata whichever occurs earlier using straight open end sampling tubes fitted to an adapter with ball and socket arrangement and using a standard SPT setup.
- 3.4 Conducting standard penetration tests in each borehole as per IS: 2131-1981 at 1.5 m interval or at change of strata whichever is earlier thru normal hammer operated by power winch arrangement.
- 3.5 Recording the ground water table level if observed up to the depth of exploration during boring work as per IS & withdrawing the casing pipes.

A handwritten signature in black ink is written over a rectangular stamp. The stamp contains the word 'APPROVED' in a bold, sans-serif font.

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- 3.6 Conducting the following laboratory tests on selected soil samples collected from the bore hole locations: -
- (a) Grain size analysis
 - (i) Hydrometer analysis
 - (ii) Sieve analysis
 - (b) Atterberg's limit

- 3.7 Preparation and submission of soil report with results of field & laboratory tests tabulated along with bore logs.

4.0 FIELD INVESTIGATIONS:

- 4.1 The testing equipment and personnel for conducting the requisite field work were mobilized to the site. These were shifted from one test location to another location during execution of the field work and demobilized on satisfactory completion of the entire field work.
- 4.2 The field work was carried out at the locations of three bore holes given to us at site by the Engineer-in-Charge. These locations are shown in figure (1). The details of bore holes locations with their coordinates & surface elevations are shown in table (1).
- 4.3 In all three bore holes BH-1 to BH-3 each of 150 mm diameter were bored at this site using shell and auger method as per IS:1892-1979. Casing as required was used to retain the bore holes. The details of various bore holes / tests conducted at site are given below: -

| Sl. No. | Test Type / Number | Test conducted at / upto a depth (m) from existing ground level | Remarks (if any) |
|---------|---|--|------------------|
| (1) | 3 Bore Holes (BH-1 to BH-3) | 40.45 m | - |
| (2) | Undisturbed soil sampling from the bore holes | 3.0 m interval or at every change of strata whichever is earlier | - |
| (3) | Standard penetration test in the bore holes | 1.5 m interval or at every change of strata whichever is earlier | - |

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- 4.3.1 Standard penetration tests were conducted in all the above bore holes at regular interval in depth as per IS: 2131-1981/test specifications. The bore was cleaned up to the desired depth. Standard split spoon sampler attached to lower end of 'A' drill rod was driven in the bore hole by means of standard hammer of 63.5 kg. falling freely from a height of 75 cm. The sampler was driven 45 cm as per IS specifications & the number of blows required for each 15 cm penetration were recorded. The number of blows for the first 15 cm penetration were not taken into account. This was considered as seating drive. The number of blows for next 30 cm penetration were designated as SPT 'N' value. Disturbed soil samples obtained from standard split spoon sampler for all the above standard penetration tests were collected in polythene bags of suitable size. These samples were properly sealed, labeled, recorded and carefully transported to the laboratory for testing.
- 4.3.2 Undisturbed soil samples were collected from the bore holes at regular/desired intervals as per IS:2132-1986/sampling specifications, in thin walled sampling tubes of 100 mm dia and 450 mm length fitted to an adapter with ball and socket arrangement. These sampling tubes after retrieval from the bore holes were properly waxed and sealed at both ends. These were carefully labeled and transported to the laboratory for testing.
- 4.4 The depth of ground water table was checked/ measured in all the bore holes after completion of boring work. The ground water table was encountered at the locations of boreholes BH-1 to BH-3 at depths varying from 8.45 m to 10.20 m depth below the existing ground level.
- 5.0 LABORATORY INVESTIGATIONS:**
- 5.1 The following laboratory tests were conducted on selected soil samples recovered from bore hole locations: -
- (a) Grain size analysis
 - (i) Hydrometer analysis
 - (ii) Sieve analysis
 - (b) Atterberg's limit

The above laboratory tests were carried out as per relevant Indian Standards. The results of laboratory test are shown in tables (2) to (7) & figures (2) to (8). All the above tests were carried out on most of the representative soil samples collected from various bore hole locations. The sub-soil strata being predominantly of low plasticity, shrinkage limit test was not carried out in the laboratory. All the soil samples were identified and classified as per IS:1498-1970.

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6.0 TEST RESULTS & INTERPRETATIONS:

6.1 The bore logs of all the bore holes (BH-1 to BH-3) are given in tables (2) to (7). From the study of bore logs / results of laboratory and other field tests as above it is revealed that the sub-soil strata:

(A) At the location of bore hole BH-1:

- (a) From existing ground level to 2.00 m depth consists filled-up soil.
- (b) From depth 2.00 m to 9.50 m depth consists predominantly of fine grained soil i.e. sandy silt of low plasticity (ML-CL) having SPT field 'N' value ranging from 12 to 22 showing stiff to very stiff consistency of strata.
- (c) From depth 9.50 m to 16.50 m depth consists predominantly of fine grained soil i.e. sandy silt of low plasticity (CL) having SPT field 'N' values mostly ranging from 19 to 32 showing very stiff to hard consistency of the strata.
- (d) From depth 16.50 m to 40.45 m depth consists predominantly of fine grained soils i.e. gravelly silt of low plasticity (ML-CL) & sandy silt of low plasticity (ML-CL) having SPT field 'N' values mostly ranging from 35 to 78 showing hard consistency of strata.

(B) At the location of bore hole BH-2:

- (a) From existing ground level to 2.45 m depth consists filled-up soil.
- (b) From depth 2.45 m to 13.50 m depth consists predominantly of fine grained soil i.e. sandy silt of low plasticity (ML-CL) having SPT field 'N' values mostly ranging from 16 to 51 showing very stiff to hard consistency of strata.
- (c) From depth 13.50 m to 18.50 m depth consists predominantly of fine grained soil i.e. gravelly silt of low plasticity (CL) having SPT field 'N' values mostly ranging from 37 to 46 showing hard consistency of strata.
- (d) From depth 18.50 m to 40.45 m depth consists predominantly of fine grained soil i.e. sandy silt of low plasticity (ML-CL) having SPT field 'N' value mostly ranging from 49 to 88 showing hard consistency of the strata.



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(C) At the location of bore hole BH-3:

- (a) From existing ground level to 1.50 m depth consists filled-up soil.
- (b) From depth 1.50 m to 9.50 m depth consists predominantly of fine grained soils i.e. sandy silt of low plasticity (CL/ML-CL) having SPT field 'N' values mostly ranging from 16 to 27 showing very stiff consistency of strata.
- (c) From depth 9.50 m to 27.50 m depth consists predominantly of fine grained soils i.e. gravelly silt of low plasticity (CL/ML-CL) having SPT field 'N' values mostly ranging from 25 to 55 showing very stiff to hard consistency of strata.
- (d) From depth 27.50 m to 40.45 m depth consists predominantly of fine grained soil i.e. sandy silt of low plasticity (ML-CL) having SPT field 'N' values mostly ranging from 56 to 83 showing hard consistency of strata.

6.2 The ground water table was encountered at the location of bore holes BH-1 to BH-3 at depths varying from 8.45 m to 10.20 m below the existing ground level. The ground water table may rise during heavy rains/rainy season or go down during dry season.

6.3 As per IS:1893 the site falls in the seismic zone IV of India.

6.4 All the above tests results and interpretations are based upon the field data collected from the various bore hole locations and results of laboratory tests carried out on selected soil samples recovered from test bore holes. In case the proposed structures are located away from the test locations and or the actual sub-soil conditions during excavation for various foundations are found different from what has been reported above, additional investigations would be needed prior to taking up of actual construction work at site.

6.5 With the submission of this report, we have completed the assignment of Soil Investigation & Soil analysis work for Group Housing Project near Viswavidyalaya Metro Station as per the scope of work provided to us, vide Ref No.: YBPL/ST/18/001 dated 30.01.2018.

for GROUND ENGINEERING LIMITED


Neeraj Kumar Jain
Executive Director

E & O E
MNR/5924

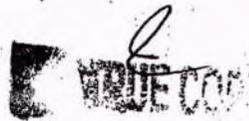
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TABLE NO. : 1

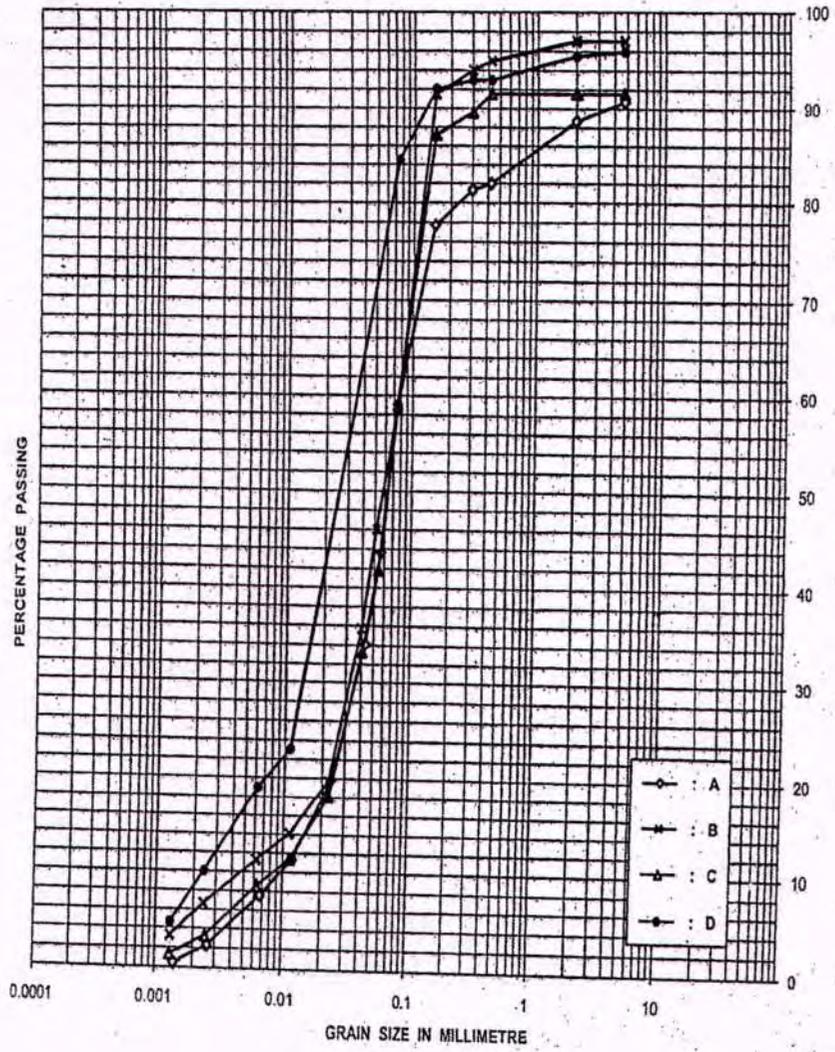
SHOWING DETAILS OF BORE HOLE LOCATIONS

| Sl. No. | Bore Hole | Co-ordinates | | Reduced Level (m) | Depth of bore hole below existing ground level (m) | Depth of ground water table below existing ground level (m) |
|---------|-----------|--------------|------------|-------------------|--|---|
| | | E | N | | | |
| 1. | BH-1 | 716458.58 | 3176114.43 | 101.96 | 40.45 | 10.20 |
| 2. | BH-2 | 716386.56 | 3176139.77 | 100.90 | 40.45 | 10.10 |
| 3. | BH-3 | 716272.09 | 3176177.33 | 99.80 | 40.45 | 8.45 |



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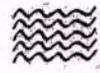


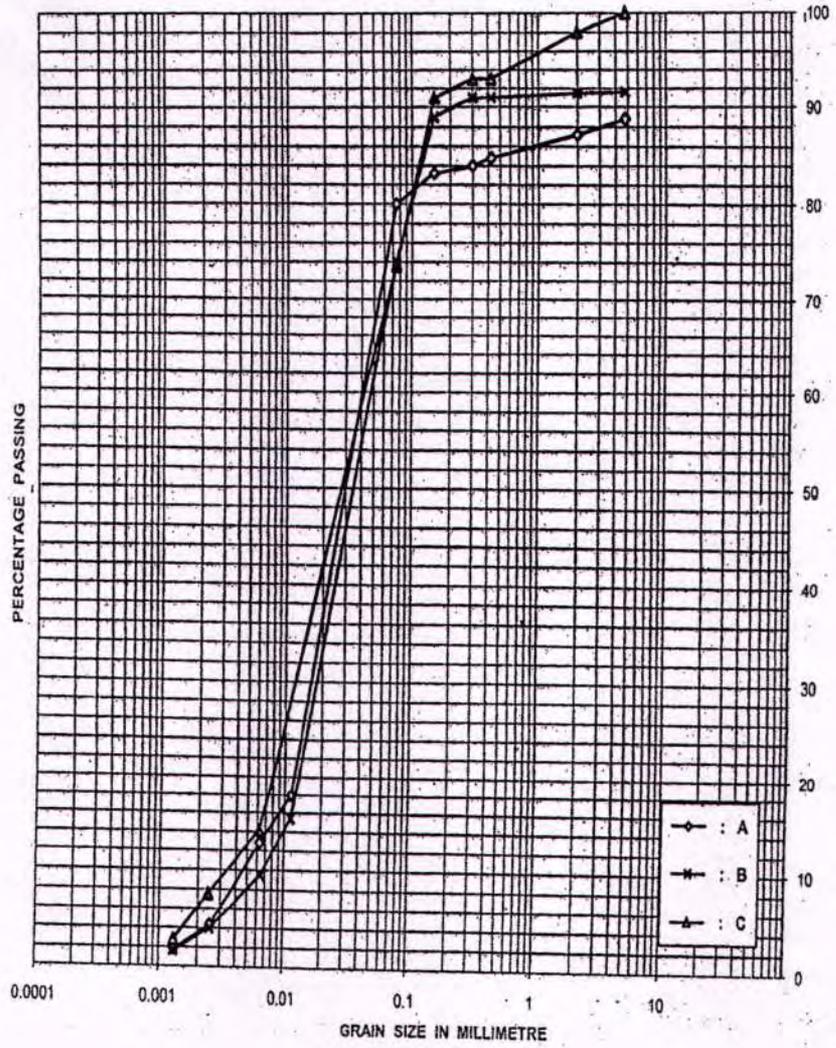
| SERIES | BORE HOLE | DEPTH (M) | IS (CLASSIFICATION) | GRAVEL (%) | SAND (%) | SILT (%) | CLAY (%) |
|--------|-----------|-----------|---------------------|------------|----------|----------|----------|
| A | BH-1 | G.L. | - | 09 | 32 | 57 | 02 |
| B | BH-1 | 4.50 | ML-CL | 03 | 38 | 53 | 06 |
| C | BH-1 | 7.50 | ML-CL | 08 | 33 | 56 | 03 |
| D | BH-1 | 10.50 | CL | 04 | 12 | 76 | 08 |

Fig. No. - 2 : GRAIN SIZE ANALYSIS CURVE


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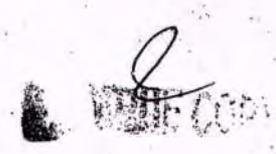
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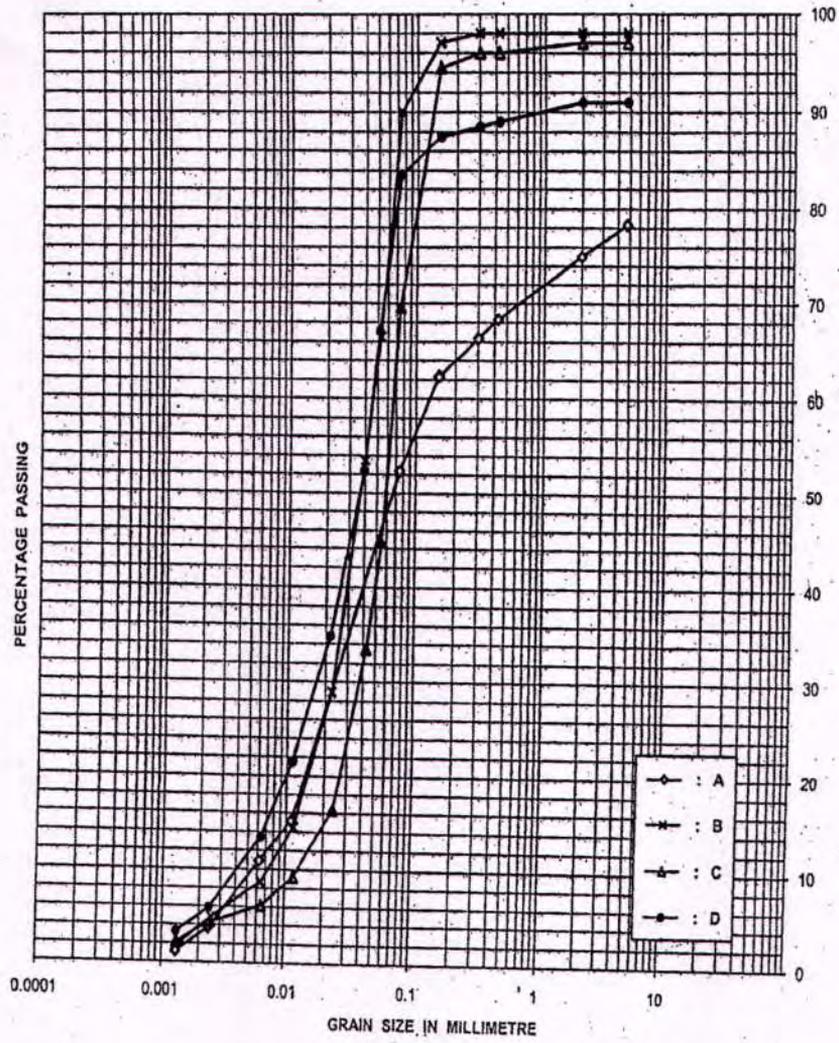
| SERIES | BORE HOLE | DEPTH (M) | IS (CLASSIFICATION) | GRAVEL (%) | SAND (%) | SILT (%) | CLAY (%) |
|--------|-----------|-----------|---------------------|------------|----------|----------|----------|
| A | BH-1 | 16.50 | ML-CL | 11 | 09 | 77 | 03 |
| B | BH-1 | 25.50 | ML-CL | 08 | 18 | 71 | 03 |
| C | BH-1 | 34.50 | ML-CL | 00 | 26 | 68 | 06 |

Fig. No. - 3 : GRAIN SIZE ANALYSIS CURVE



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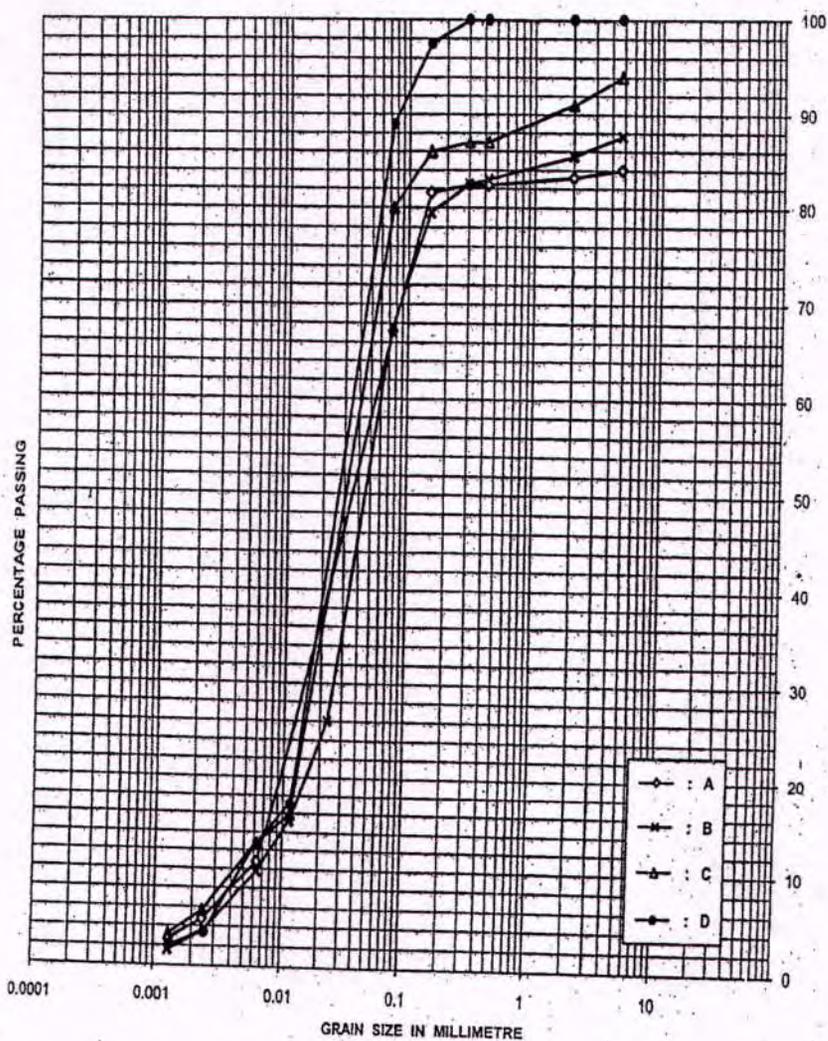
| SERIES | BORE HOLE | DEPTH (M) | IS (CLASSIFICATION) | GRAVEL (%) | SAND (%) | SILT (%) | CLAY (%) |
|--------|-----------|-----------|---------------------|------------|----------|----------|----------|
| A | BH-2 | 0.65 | -- | 22 | 26 | 49 | 03 |
| B | BH-2 | 4.50 | ML-CL | 02 | 08 | 86 | 04 |
| C | BH-2 | 10.50 | ML-CL | 03 | 27 | 66 | 04 |
| D | BH-22 | 13.50 | ML-CL | 09 | 07 | 79 | 05 |

Fig. No. - 4 : GRAIN SIZE ANALYSIS CURVE

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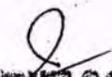
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| SERIES | BORE HOLE | DEPTH (M) | IS (CLASSIFICATION) | GRAVEL (%) | SAND (%) | SILT (%) | CLAY (%) |
|--------|-----------|-----------|---------------------|------------|----------|----------|----------|
| A | BH-2 | 19.50 | ML-CL | 16 | 17 | 63 | 04 |
| B | BH-2 | 22.50 | ML-CL | 12 | 20 | 65 | 03 |
| C | BH-2 | 28.50 | ML-CL | 06 | 14 | 75 | 05 |
| D | BH-22 | 34.50 | ML-CL | 00 | 11 | 86 | 03 |

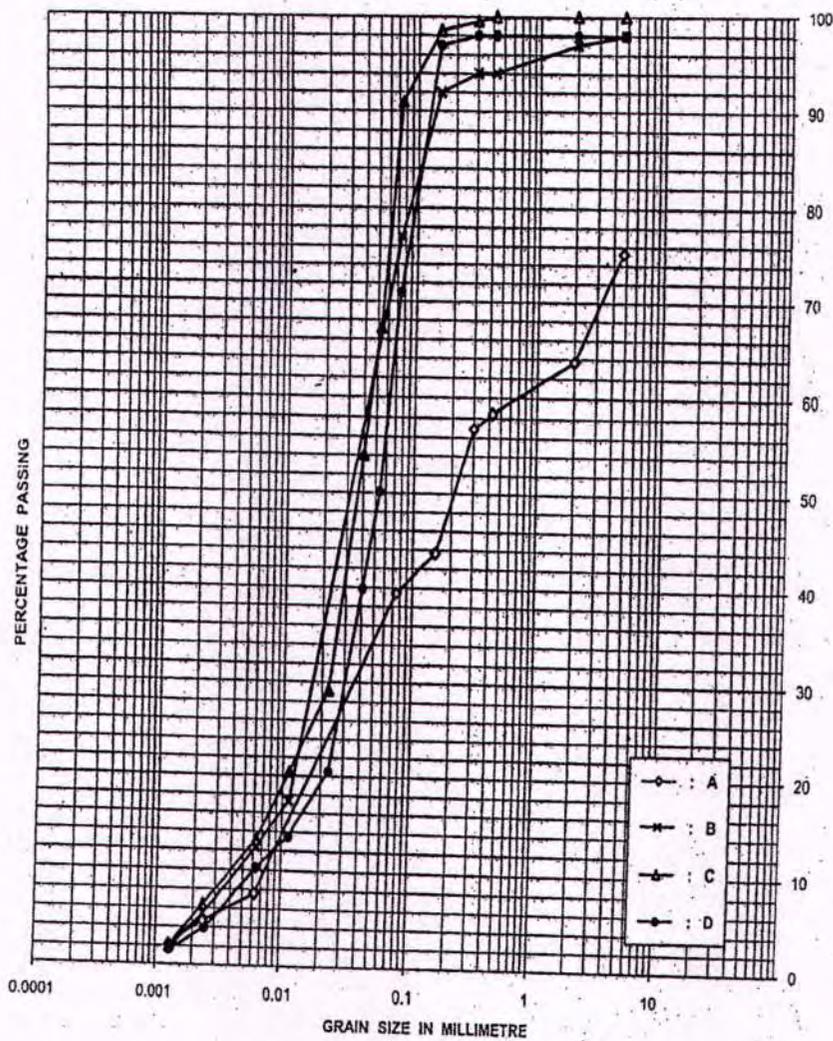
Fig. No. - 5 : GRAIN SIZE ANALYSIS CURVE


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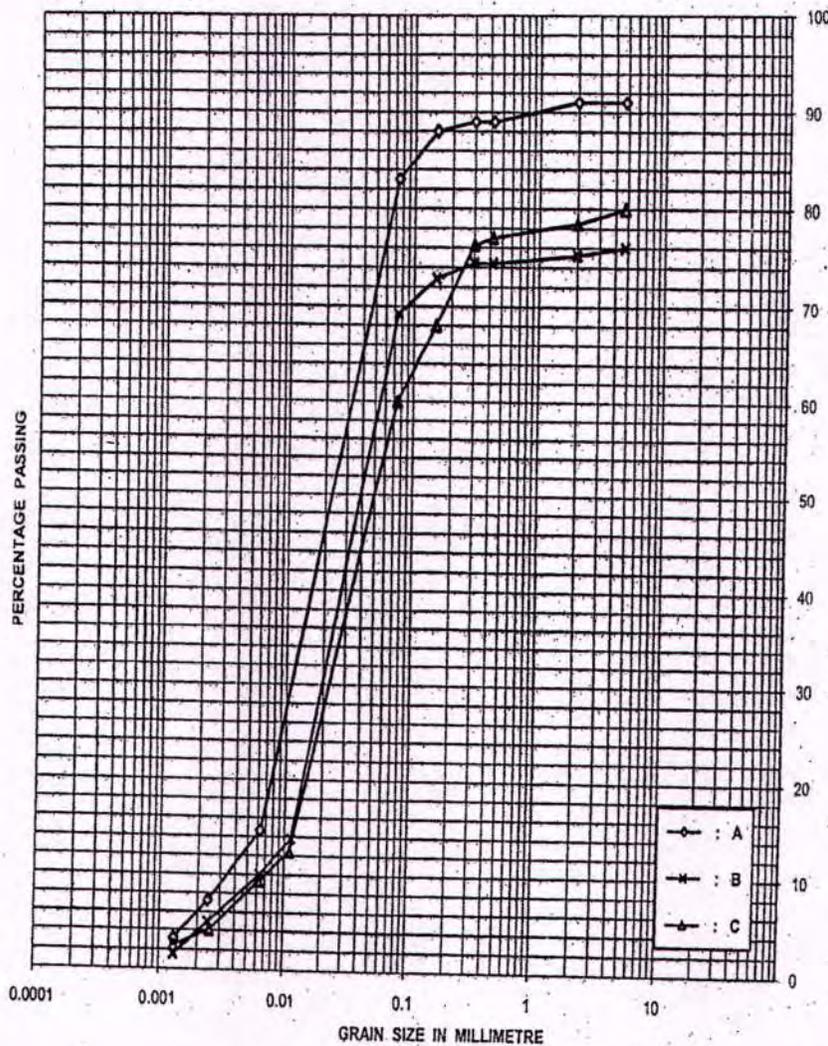
| SERIES | BORE HOLE | DEPTH (M) | IS (CLASSIFICATION) | GRAVEL (%) | SAND (%) | SILT (%) | CLAY (%) |
|--------|-----------|-----------|---------------------|------------|----------|----------|----------|
| A | BH-3 | G.L. | -- | 25 | 36 | 35 | 04 |
| B | BH-3 | 1.50 | ML-CL | 02 | 21 | 73 | 04 |
| C | BH-3 | 4.50 | CL | 00 | 09 | 86 | 05 |
| D | BH-3 | 8.15 | ML-CL | 02 | 27 | 68 | 03 |

Fig. No. - 6 : GRAIN SIZE ANALYSIS CURVE



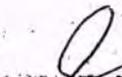
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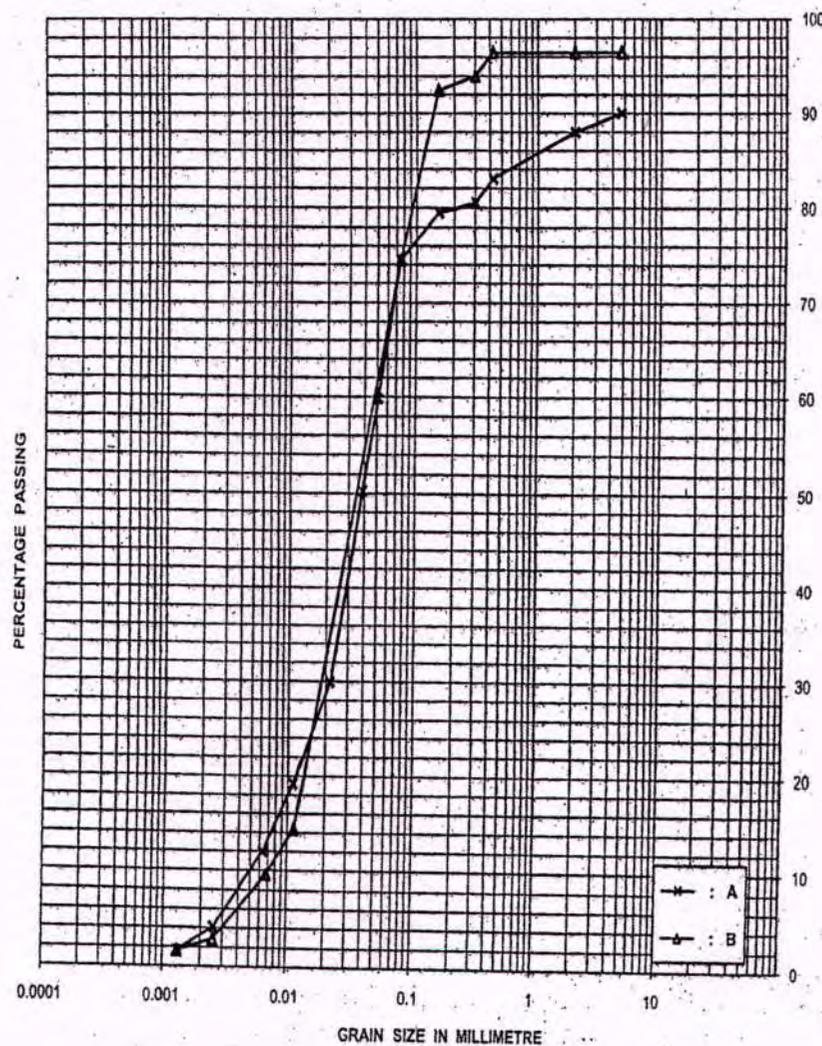
| SERIES | BORE HOLE | DEPTH (M) | IS (CLASSIFICATION) | GRAVEL (%) | SAND (%) | SILT (%) | CLAY (%) |
|--------|-----------|-----------|---------------------|------------|----------|----------|----------|
| A | BH-3 | 10.50 | CL | 09 | 08 | 77 | 06 |
| B | BH-3 | 16.50 | ML-CL | 24 | 07 | 65 | 04 |
| C | BH-3 | 22.50 | ML-CL | 20 | 20 | 56 | 04 |

Fig. No. - 7 : GRAIN SIZE ANALYSIS CURVE


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| SERIES | BORE HOLE | DEPTH (M) | IS (CLASSIFICATION) | GRAVEL (%) | SAND (%) | SILT (%) | CLAY (%) |
|--------|-----------|-----------|---------------------|------------|----------|----------|----------|
| A | BH-3 | 28.50 | ML-CL | 10 | 16 | 71 | 03 |
| B | BH-3 | 34.50 | ML-CL | 04 | 22 | 72 | 02 |

Fig. No. - 8 : GRAIN SIZE ANALYSIS CURVE

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ANNEXURE-37

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(Geotechnical and Structural)
Gachibowli, Hyderabad – 500 032

Document No. VSRC/RGH/VVMS/YBPL/FR/01

DATED: 17.04.2018

Report on Foundation Recommendations

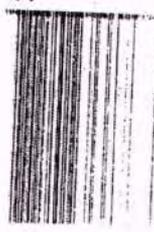
Project

**Residential Group Housing at Vishwavidyalaya
Metro Station, New Delhi**

Client

Young Builders Pvt. Ltd., New Delhi

| | | | | |
|----------|----------|-------------------------|--------------------|--------------------------|
| | | <i>T. Jaya Bharathi</i> | <i>C.R. Balaji</i> | <i>V.S. Raju</i> |
| 17.04.18 | R0 | T. JAYABHARATHI | C.R. BALAJI | V. S. RAJU |
| DATE | REVISION | PREPARED BY | REVIEWED BY | REVIEWED AND APPROVED BY |



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472**The Team:**

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Annexures:

1. Note on Foundation Recommendations by Prof.V.S.Raju Consultants communicated vide email dated 29.03.2018.
2. Initial Soil Investigation report by M/S. Rao Engineering Enterprises, New Delhi.
3. Confirmatory Soil Investigation report by M/S. Ground Engineering Limited, New Delhi.

REPORT ON FOUNDATION RECOMMENDATIONS**Project: Proposed Group Housing at Vishwavidyalaya Metro Station, New Delhi**

17.04.2018

1. Preamble:

M/s. Young Builders Private Limited, New Delhi is proposing a project in New Delhi. The proposed project consists of five multi storied high rise towers (Towers A, B, C, D and E) and EWS flats. All the towers including EWS flats have the structural configuration of 2 B + G + 38 upper floors.

M/s. Young Builders Private Limited, New Delhi requested the undersigned to review the soil investigation reports and give optimum recommendations for foundations.

A note on foundation recommendations was communicated vide email dated 29.03.2018. See Annexure 1 for soft copy of the same.

This report gives the foundation recommendations for the proposed towers and EWS flats including safe bearing capacity and settlement calculations.

2. Review of soil investigation report:

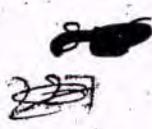
Soil investigations for the proposed project were carried out by M/s. Rao Engineering Enterprises, New Delhi. We have reviewed the soil investigation report titled "Soil Investigation work for proposed project "Group Housing project at Vishwavidyalaya metro station", New Delhi". Soft copy of the soil report is given in Annexure 2.

Total 10 boreholes (BH 1 to BH 10) have been carried out. Boreholes BH 1, BH 2, BH 3 and BH 4 have been explored upto a depth of 40 m and BH 5, BH 6, BH 7, BH 8 and BH 9 is upto 30 m and BH 10 is upto 20 m below Existing Ground Level (EGL).

The bore logs are given in Enclosure 1.

The soil strata predominantly consists of silty sand and sandy silt.

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The soil investigations were carried out in May 2009. There is a large variation between boreholes in terms of Standard Penetration Test (SPT) N values. In view of this, confirmatory soil investigations were recommended.

3. Confirmatory Soil Investigations:

Confirmatory soil investigations have been carried out by M/s. Ground Engineering Ltd, New Delhi in February 2018. We have reviewed the confirmatory soil investigation report titled "Soil investigation & soil analysis for Group Housing project near Viswavidyalaya Metro Station for Young Builders, New Delhi". Soft copy of the soil report is given in Annexure 3.

Three confirmatory boreholes (NBH 1, NBH 2 and NBH 3) have been carried out. All the three boreholes have been explored upto a depth of 40.45 m below EGL.

The confirmatory bore logs are given in Enclosure 2.

The soil strata predominantly consists of sandy silt and gravelly silt.

4. Ground Water Table (GWT):

GWT was encountered at depths ranging from 7.5 m to 7.7 m below EGL during the initial soil investigations carried out in May 2009. GWT was encountered in the confirmatory boreholes carried out in February 2018 at depths ranging from 8.45 m to 10.2 m below EGL. It is likely that the GWT has gone down during the last 9 years.

5. The Structure and Relevant Boreholes:

The proposed group housing project consists of 5 towers viz., Tower A, B, C, D and E and EWS flats. All towers & EWS flats have the structural configuration of 2B + Ground floor + 38 upper floors.

The relevant boreholes Tower-wise are:

| | | |
|---------|---|----------------------|
| Tower A | - | NBH 1 |
| Tower B | - | BH 1, BH 6 and NBH 2 |
| Tower C | - | BH 3 |

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Tower D - BH 7
 Tower E - BH 4, BH 8 and NBH 3
 EWS flats - BH 9

A site plan showing location of the towers and boreholes is given in Enclosure 3.

The finished floor level of lowest basement (2nd basement) is 10.05 m. See Enclosure 4 for the section showing the finished floor level.

6. Shear Strength Parameters considered in our Foundation Analysis:

In the initial soil report (M/s. Rao Engineering Enterprises, New Delhi), the reported shear strength parameters are inappropriate. Taking into account all the data presented in the soil report, in particular, the SPT N value and based on our prior experience in similar strata conditions in the National Capital Region (NCR), we have considered the shear strength parameters as given below:

- For silty sand layers, angle of internal friction (ϕ) has been obtained from Figure 1 of IS: 6403 - 1981, based on average corrected SPT N. However, on a conservative side, the value of angle of internal friction is limited to 32° .
- For sandy silt and gravelly silt layers, angle of internal friction (ϕ) considered as 30° , on a conservative side.
- Bulk unit weight of soil (γ) is considered as 18 kN/m^3 as given in the soil report.

7. Foundation Analysis:

The undersigned carried out an independent assessment of the soil investigation results (field and laboratory tests) presented in the reports by M/s. Rao Engineering Enterprises, New Delhi and M/s. Ground Engineering Ltd, New Delhi. The purpose of this assessment is to arrive at an economical foundation system, which fully satisfies the bearing capacity and settlement criteria.

7.1 Methodology adopted for foundation analysis:

Allowable bearing capacity is calculated as per IS: 6403 – 1981.

Allowable bearing capacity is the lowest of:

- (i) Net safe bearing capacity
- (ii) The net soil pressure that can be imposed on the base with settlements not exceeding the permissible value of 75 mm for rafts resting on sandy soils as per IS: 1904 - 1986.

On the other hand, as per IS: 16700 – 2017 (Tall structures code), the maximum vertical settlement may be relaxed to 125 mm in case of raft foundations, subject to, maximum angular distortion of raft not exceeding 1 / 500.

7.1.1 Net Safe Bearing Capacity:

The average corrected SPT N value is calculated by considering effective depth from founding level to 1.5 times the width of foundation. If average SPT N corrected is ≤ 10 , Local Shear Failure (LSF) is to be considered. If average SPT N corrected is ≥ 30 , General Shear Failure (GSF) is to be considered. If $10 \leq$ average SPT N corrected ≤ 30 , then linear interpolation between LSF and GSF is to be done.

The ultimate net bearing capacity (UBC) of shallow foundation based on shear criteria is calculated using the formula given in IS: 6403 – 1981.

Ultimate Net Bearing Capacity as per General Shear Failure criteria is given by,

$$Net\ UBC = C N_c S_c d_c i_c + q (N_q - 1) S_q d_q i_q + 0.5 B \gamma N_\gamma S_\gamma d_\gamma i_\gamma W$$

Ultimate Net Bearing Capacity as per Local Shear Failure criteria is given by,

$$Net\ UBC = \frac{2}{3} C N_c^1 S_c d_c i_c + q (N_q^1 - 1) S_q d_q i_q + \frac{1}{2} B \gamma N_\gamma^1 S_\gamma d_\gamma i_\gamma W$$

Where,

- C = Cohesion, kN/m²
- q = Effective overburden pressure, kN/m²

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| | | |
|------------------------------|---|--|
| B | = | Width of the foundation, m |
| γ | = | Bulk Unit weight of soil, kN/m^3 |
| N_c, N_q and N_γ | = | Bearing capacity factors for general shear failure |
| N'_c, N'_q and N'_γ | = | Bearing capacity factors for local shear failure |
| S_c, S_q and S_γ | = | Shape factors |
| d_c, d_q and d_γ | = | Depth factors |
| W | = | Water table correction factor |

The net safe bearing capacity is determined by dividing the ultimate net bearing capacity with a factor of safety of 2.5.

7.1.2 Net Soil Pressure / Safe Bearing Pressure:

The requirement is that the settlements are to be within the permissible settlements. As per IS: 1904 - 1986, the permissible settlements for rafts resting on sandy soils are 75 mm. However, as per IS: 16700 - 2017 (Tall structures code), the maximum vertical settlement may be relaxed to 125 mm in raft foundations, subject to maximum angular distortion of raft not exceeding 1 / 500.

Settlements are calculated as per "IS: 8009 (Part 1) - 1976 (Reaffirmed 1998) - Code of practice for calculations of settlements of shallow foundations subjected to symmetrical static vertical loads" based on soil profile from boreholes. For the purpose of calculation of settlements, net bearing pressure is considered as the loading from the foundation on the soil.

The increase in pressure due to foundation load at different layers is calculated from Figure 18 of IS: 8009 (Part 1) - 1976, which gives influence factor for uniformly loaded rectangular area (Boussinesq theory).

The settlements are given by the equation:

$$\text{Settlement, } S = (\sigma_z / E_s) \times H$$

$$\sigma_z = \text{Pressure increase at middle of the layer}$$

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H = Thickness of the layer

E_s = Soil modulus

σ_z is calculated from the following formulae,

$\sigma_z = 4 \times p \times I_B$

p = Net Bearing Pressure

I_B = Influence factor, a function of L / Z and B / Z
(Fig: 18 of IS: 8009)

L = Length of the foundation / 2

B = Width of the foundation / 2

Z = Depth from the founding level to the middle of each layer.

For settlement calculations, the layers upto 1.5 times the width of raft from base of raft is considered. Boreholes BH 1 to BH 4 have been explored upto 40 m depth. Beyond 40 m depth, it is assumed that the same strata will continue till the zone of influence (1.5 times width of raft). Boreholes BH 5 to BH 9 have been explored upto 30 m depth. Beyond 30 m depth, it is assumed that the same strata will continue till the zone of influence (1.5 times width of raft). Boreholes NBH 1 to NBH 3 have been explored upto 40 m depth. Beyond 40 m depth, it is assumed that the same strata will continue till the zone of influence (1.5 times width of raft).

After calculating the settlements for each layer, depth factor correction (Fig: 12 of IS: 8009 (Part 1) - 1976) and the rigidity factor correction (Ref: Clause 9.5.2 of IS: 8009, (Part 1) - 1976) have been applied for estimating the final settlements.

7.2 Soil Modulus E_s :

For a given loading condition, the soil modulus E_s of the strata will govern the settlements. Based on our extensive experience, we find that soil modulus for cohesionless soils obtained based on correlation between SPT N and E_s given by Schultze and Muhs is more appropriate. This correlation is based on actual settlement observations

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of structures and back calculations. Some footing load tests have also confirmed the validity of this correlation.

Schultze and Muhs curve (Enclosure 5) gives the correlation only upto SPT N value of 50.

For SPT N > 50, we have extrapolated and used the following equation:

$$E_s = E_s \text{ for } N = 50 + \{(N - 50) * 87.5\} \text{ in } t/m^2$$

This is on the conservative side, because as the soil becomes denser i.e. SPT N higher and higher, the soil becomes less and less compressible.

7.3 Sub-grade Modulus:

For settlement calculations, net bearing pressure is to be used, because upto the overburden pressure there will be negligible settlements. By definition, sub-grade modulus is the ratio of average net base pressure to settlement. However, in the structural analysis of the raft, the gross bearing pressure is applied. In view of this, sub-grade modulus is calculated as the ratio of gross bearing pressure to settlement.

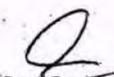
8. Foundation Recommendations:

The proposed group housing project consists of 5 towers viz., Tower A, B, C, D and E and EWS flats. All towers & EWS flats have the structural configuration of 2B + Ground floor + 38 upper floors.

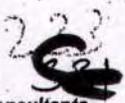
Raft foundation is recommended for all the towers and EWS flats.

The finished floor level of lowest basement (2nd basement) is 10.05 m. The thickness of the raft is assumed as 2 m and the actual thickness will be as per structural requirements. The founding level of the raft is considered as 12.05 m below EGL. The average loading intensity per floor is considered as 1.5 t/m² as communicated vide email dated 12.03.2018 from Civtech Consultants, New Delhi (See Enclosure 6).

The raft foundation recommendations is based on the assumptions that the water table will be lowered ahead of the excavation to 1 m below the bottom of excavation i.e., base


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of the raft and maintained till enough downward load is mobilized to resist the uplift pressure.

8.1 Tower A:

The foot print area of Tower A is 599 m². The raft size based on an offset with 1 m from the tower foot print is 745 m². Safe bearing capacity and settlements are calculated based on relevant borehole NBH 1.

8.1.1 Safe Bearing Capacity (SBC) of raft from shear failure considerations:

As per procedure given in section 7.1.1 of this report, raft SBC from shear failure considerations works out to about 80 t/m² as against net bearing pressure of 35.8 t/m². This shows that rafts of present size resting on sandy / silty strata generally do not fail in bearing. Hence, the raft settlements control the allowable soil pressure. Typical safe bearing capacity calculations are given in Enclosure 7.

8.1.2 Raft Settlements:

Settlements have been calculated as explained in section 7.1.2 of this report. For the purpose of calculation of settlements, net bearing pressure is considered as the loading from the raft on the soil. An equivalent rectangular raft which has the same area as the proposed raft has been considered for settlement analysis.

The Gross Bearing Pressure (GBP), Net Bearing Pressure (NBP), estimated settlements and sub-grade modulus are given in Table 1 below:

Table 1: GBP, NBP, Settlements and Sub-grade modulus for Tower A

| Relevant Borehole | Offset of raft from foot print (m) | Area of raft (m ²) | GBP (t/m ²) | NBP (t/m ²) | Estimated settlement of the raft (mm) | Estimated sub-grade modulus (kg/cm ³) | Recommended sub-grade modulus (kg/cm ³) |
|-------------------|------------------------------------|--------------------------------|-------------------------|-------------------------|---------------------------------------|---|---|
| NBH 1 | 1 | 745 | 56.1 | 35.8 | 71 | 0.79 | 1.03 ** |

** See Para 8.1.3


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Note: Gross Bearing Pressure is the total load of the structure at the founding level. Net bearing pressure is GBP less the overburden pressure i.e. the amount of soil excavated.

The estimated settlements are 71 mm, which are within the permissible limits of 125 mm as per IS: 16700 - 2017.

Typical calculations of GBP, NBP and Settlements are given in Enclosure 8.

8.1.3 Sub-grade Modulus for the structural design of the raft:

The estimated sub-grade modulus for the raft is 0.79 kg/cm^3 .

Based on the actual settlement observations carried out on buildings on similar strata conditions in the National Capital Region (NCR), where we were the foundation consultants, the observed settlements are less than the estimated settlements by about 30 %. Hence, recommend increase in estimated subgrade modulus by 30 %.

With this, the recommended sub-grade modulus for the structural design of the raft is 1.03 kg/cm^3 .

However, it is important to ensure that

- The raft stiffness of each tower should be such that the angular distortion of the raft between any two points should not be more than $1/500$. This might mean that the raft thickness and with it, its rigidity should be adequate not only from structural requirements but also to limit the deformations.

8.2 Tower B and Tower C:

The foot print area of Tower B and Tower C is same i.e., 510 m^2 . The raft size based on an offset with 1 m from the tower foot print is 641 m^2 . Safe bearing capacity and settlements are calculated based on relevant boreholes BH 1, BH 6 and NBH 2 for Tower B and BH 3 for Tower C.

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8.2.1 Safe Bearing Capacity (SBC) of raft from shear failure considerations:

As per procedure given in section 7.1.1 of this report, raft SBC from shear failure considerations works out to about 80 t/m² for Tower B and 90 t/m² for Tower C as against net bearing pressure of 37.5 t/m². This shows that rafts of present size resting on sandy / silty strata generally do not fail in bearing. Hence, the raft settlements control the allowable soil pressure.

8.2.2 Raft Settlements:

Settlements have been calculated as explained in section 7.1.2 of this report. For the purpose of calculation of settlements, net bearing pressure is considered as the loading from the raft on the soil. An equivalent rectangular raft which has the same area as the proposed raft has been considered for settlement analysis of both the towers B and C.

The Gross Bearing Pressure (GBP), Net Bearing Pressure (NBP), estimated settlements and sub-grade modulus for Tower B are given in Table 2 below:

Table 2: GBP, NBP, Settlements and Sub-grade modulus for Tower B

| Relevant Boreholes | Offset of raft from foot print (m) | Area of raft (m ²) | GBP (t/m ²) | NBP (t/m ²) | Estimated settlement of the raft (mm) | Estimated sub-grade modulus (kg/cm ³) | Recommended sub-grade modulus (kg/cm ³) |
|--------------------|------------------------------------|--------------------------------|-------------------------|-------------------------|---------------------------------------|---|---|
| BH 1 | 1 | 641 | 55.5 | 37.3 | 75 | 0.74 | 0.96 |
| BH 6 | | | | 37.4 | 76 | 0.73 | 0.95 |
| NBH 2 | | | | 35.4 | 57 | 0.97 | 1.26 |
| Average: | | | | | 69 | 0.81 | 1.06** |

** See Para 8.1.3

The estimated average settlements are 69 mm, which are within the permissible limits of 125 mm as per IS: 16700 - 2017.

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The estimated average sub-grade modulus for the raft is 0.81 kg/cm^3 . The recommended sub-grade modulus for the structural design of the raft is 1.06 kg/cm^3 .

However, it is important to ensure that

- The raft stiffness of each tower should be such that the angular distortion of the raft between any two points should not be more than $1/500$. This might mean that the raft thickness and with it, its rigidity should be adequate not only from structural requirements but also to limit the deformations.

The Gross Bearing Pressure (GBP), Net Bearing Pressure (NBP), estimated settlements and sub-grade modulus for Tower C are given in Table 3 below:

Table 3: GBP, NBP, Settlements and Sub-grade modulus for Tower C

| Relevant Borehole | Offset of raft from foot print (m) | Area of raft (m^2) | GBP (t/m^2) | NBP (t/m^2) | Estimated settlement of the raft (mm) | Estimated sub-grade modulus (kg/cm^3) | Recommended sub-grade modulus (kg/cm^3) |
|-------------------|------------------------------------|-------------------------------|------------------------|------------------------|---------------------------------------|--|--|
| BH 3 | 1 | 641 | 55.5 | 37.5 | 80 | 0.69 | 0.9^{**} |

** See Para 8.1.3

The estimated settlements are 80 mm, which are within the permissible limits of 125 mm as per IS: 16700 - 2017.

The estimated sub-grade modulus for the raft is 0.69 kg/cm^3 . The recommended sub-grade modulus for the structural design of the raft is 0.9 kg/cm^3 .

However, it is important to ensure that

- The raft stiffness of each tower should be such that the angular distortion of the raft between any two points should not be more than $1/500$. This might mean that the raft thickness and with it, its rigidity should be adequate not only from structural requirements but also to limit the deformations.

8.3 Tower D and Tower E:

The foot print area of Tower D and Tower E is same i.e., 784 m². The raft size based on an offset with 1.5 m from the tower foot print is 987 m². Safe bearing capacity and settlements are calculated based on relevant boreholes BH 7 for Tower D and BH 4, BH 8 and NBH 3 for Tower E.

8.3.1 Safe Bearing Capacity (SBC) of raft from shear failure considerations:

As per procedure given in section 7.1.1 of this report, raft SBC from shear failure considerations works out to about 90 t/m² for Tower D and Tower E as against net bearing pressure of 37.4 t/m². This shows that rafts of present size resting on sandy / silty strata generally do not fail in bearing. Hence, the raft settlements control the allowable soil pressure.

8.3.2 Raft Settlements:

Settlements have been calculated as explained in section 7.1.2 of this report. For the purpose of calculation of settlements, net bearing pressure is considered as the loading from the raft on the soil. An equivalent rectangular raft which has the same area as the proposed raft has been considered for settlement analysis of both the towers D and E.

The Gross Bearing Pressure (GBP), Net Bearing Pressure (NBP), estimated settlements and sub-grade modulus for Tower D are given in Table 4 below:

Table 4: GBP, NBP, Settlements and Sub-grade modulus for Tower D

| Relevant Borehole | Offset of raft from foot print (m) | Area of raft (m ²) | GBP (t/m ²) | NBP (t/m ²) | Estimated settlement of the raft (mm) | Estimated sub-grade modulus (kg/cm ³) | Recommended sub-grade modulus (kg/cm ³) |
|-------------------|------------------------------------|--------------------------------|-------------------------|-------------------------|---------------------------------------|---|---|
| BH 7 | 1.5 | 987 | 55.4 | 37.4 | 98 | 0.57 | 0.74** |

** See Para 8.1.3

The estimated settlements are 98 mm, which are within the permissible limits of 125 mm as per IS: 16700 - 2017.

The estimated sub-grade modulus for the raft is 0.57 kg/cm^3 . The recommended sub-grade modulus for the structural design of the raft is 0.74 kg/cm^3 .

However, it is important to ensure that

- > The raft stiffness of each tower should be such that the angular distortion of the raft between any two points should not be more than $1/500$. This might mean that the raft thickness and with it, its rigidity should be adequate not only from structural requirements but also to limit the deformations.

The Gross Bearing Pressure (GBP), Net Bearing Pressure (NBP), estimated settlements and sub-grade modulus for Tower E are given in Table 5 below:

Table 5: GBP, NBP, Settlements and Sub-grade modulus for Tower E

| Relevant Boreholes | Offset of raft from foot print (m) | Area of raft (m^2) | GBP (t/m^2) | NBP (t/m^2) | Estimated settlement of the raft (mm) | Estimated sub-grade modulus (kg/cm^3) | Recommended sub-grade modulus (kg/cm^3) |
|--------------------|------------------------------------|-------------------------------|------------------------|------------------------|---------------------------------------|--|--|
| BH 4 | 1.5 | 987 | 55.4 | 37.2 | 99 | 0.56 | 0.73 |
| BH 8 | | | | 37.2 | 100 | 0.55 | 0.72 |
| NBH 3 | | | | 36.6 | 81 | 0.68 | 0.88 |
| Average: | | | | | 93 | 0.59 | 0.77** |

** See Para 8.1.3

The estimated average settlements are 93 mm, which are within the permissible limits of 125 mm as per IS: 16700 - 2017.

The estimated average sub-grade modulus for the raft is 0.59 kg/cm^3 . The recommended sub-grade modulus for the structural design of the raft is 0.77 kg/cm^3 .

However, it is important to ensure that

- The raft stiffness of each tower should be such that the angular distortion of the raft between any two points should not be more than $1/500$. This might mean that the raft thickness and with it, its rigidity should be adequate not only from structural requirements but also to limit the deformations.

8.4 EWS Flats:

The foot print area of EWS flats is 663 m^2 . The raft size based on an offset with 1 m from the tower foot print is 796 m^2 . Safe bearing capacity and settlements are calculated based on relevant borehole BH 9.

8.4.1 Safe Bearing Capacity (SBC) of raft from shear failure considerations:

As per procedure given in section 7.1.1 of this report, raft SBC from shear failure considerations works out to about 75 t/m^2 as against net bearing pressure of 39.8 t/m^2 . This shows that rafts of present size resting on sandy / silty strata generally do not fail in bearing. Hence, the raft settlements control the allowable soil pressure.

8.4.2 Raft Settlements:

Settlements have been calculated as explained in section 7.1.2 of this report. For the purpose of calculation of settlements, net bearing pressure is considered as the loading from the raft on the soil. An equivalent rectangular raft which has the same area as the proposed raft has been considered for settlement analysis.

The Gross Bearing Pressure (GBP), Net Bearing Pressure (NBP), estimated settlements and sub-grade modulus are given in Table 6 below (See next page):

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Table 6: GBP, NBP, Settlements and Sub-grade modulus for EWS flats

| Relevant Borehole | Offset of raft from foot print (m) | Area of raft (m ²) | GBP (t/m ²) | NBP (t/m ²) | Estimated settlement of the raft (mm) | Estimated sub-grade modulus (kg/cm ³) | Recommended sub-grade modulus (kg/cm ³) |
|-------------------|------------------------------------|--------------------------------|-------------------------|-------------------------|---------------------------------------|---|---|
| BH 9 | 1 | 796 | 57.9 | 39.8 | 85 | 0.68 | 0.88** |

** See Para 8.1.3

The estimated settlements are 85 mm, which are within the permissible limits of 125 mm as per IS: 16700 - 2017.

The estimated sub-grade modulus for the raft is 0.68 kg/cm³. The recommended sub-grade modulus for the structural design of the raft is 0.88 kg/cm³.

However, it is important to ensure that

- The raft stiffness of each tower should be such that the angular distortion of the raft between any two points should not be more than 1/500. This might mean that the raft thickness and with it, its rigidity should be adequate not only from structural requirements but also to limit the deformations.

9. Foundation Recommendations for Extended Basements:

For extended basement area, isolated footings are recommended. Finished Floor Level (FFL) of the extended basements will be same as the tower basement finished floor level i.e., 10.05 m below EGL. The thickness of isolated footings is assumed as 750 mm. The actual thickness will depend as per structural requirements. The founding level is 10.80 m below EGL (with 750 mm thickness). The boreholes carried out in the extended basements area include BH 2, BH 5 and BH 10.

Safe Bearing Capacity (SBC) calculations have been carried out for the sizes ranging from 2 m x 2 m to 5 m x 5 m and the boreholes-wise summary is given in Table 7 below (See next page):

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Table 7: Summary of Safe Bearing Capacities

| Borehole Number | Size of isolated footings (m x m) | Safe Bearing Capacity (t/m ²) |
|-----------------|-----------------------------------|---|
| BH 2 | 2 x 2 | 18 |
| | 3 x 3 | 21 |
| | 4 x 4 | 24 |
| | 5 x 5 | 27 |
| BH 5 | 2 x 2 | 7 |
| | 3 x 3 | 10 |
| | 4 x 4 | 12 |
| | 5 x 5 | 14 |
| BH 10 | 2 x 2 | 9 |
| | 3 x 3 | 11 |
| | 4 x 4 | 13 |
| | 5 x 5 | 17 |

SBC for the intermediate sizes can be obtained by linearly interpolating the above values.

Typical safe bearing capacity calculations for isolated footings are given in Enclosure 9.

9.1 Net bearing pressure from super-structure for the extended basements:

Net bearing pressure = Gross bearing pressure - Overburden pressure

Average loading intensity for each Basement = 1.5 t/m²

Loading intensity for 2 basements = 1.5 x 2
= 3 t/m²

Overburden pressure = Founding level x Bulk unit weight of the soil

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$$\begin{aligned}
 &= (7.5 \times 1.8) + [(10.8 - 7.5) \times 1] \\
 &= 16.8 \text{ t/m}^2 \\
 \text{Net bearing pressure} &= 3 - 16.8 \\
 &= -13.8 \text{ t/m}^2
 \end{aligned}$$

The estimated net bearing pressure is negative. This means, theoretically there will be no settlements.

The recommended sub-grade modulus for the structural design of the isolated footings is 3 kg/cm³.

10. Lowering of Ground Water Table (GWT) :

The current GWT level is reported at depths ranging from 8.45 m to 10.2 m below EGL. With assumed raft thickness of 2 m, the founding level will be at 12.05 m below EGL. This means that the founding level will be 1.85 m to 3.6 m below water table level.

It is extremely important to lower the water table 1 m below the founding level in advance i.e., before the excavation is done i.e., 13.05 m below EGL and maintained till enough downward load is mobilized to counteract the uplift pressure.

The strata at founding level is predominantly silt and will not give out water easily. This aspect is to be kept in mind by the dewatering contractor.

Dewatering scheme has to be designed by a specialist agency on a design execution basis.

11. Shoring for Deep Excavations:

As the final excavation depth is about 12 m below EGL for the towers and about 11 m below EGL for extended basements, the shoring system has to be designed properly.

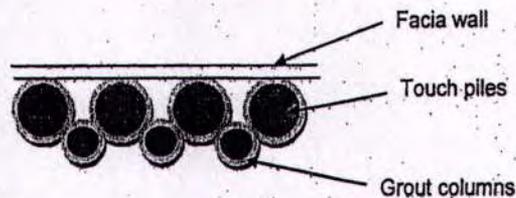
The following options may be considered:

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Option 1: Touch piles with temporary earth anchors and grout columns in the rear and fascia wall on the basement side.



Option 2: Diaphragm wall with temporary earth anchors and the diaphragm wall will serve as the basement wall.

Design of shoring system is a specialist job and done by a specialist agency on a design execution basis.

12. Design of Basement wall:

The basement wall should be designed to resist the lateral earth pressure due to backfill. Based on the value of angle of internal friction of 30 degrees, the coefficient of active earth pressure K_a can be taken as 0.33, coefficient of passive earth pressure K_p as 3 and coefficient of earth pressure at rest K_0 as 0.5.

13. Precautions to be taken during construction of foundations:

- a) The excavation should be done in a controlled fashion, so that the layer below excavation is not disturbed / loosened. Even after lowering the water table, if the excavation surface is found moist and difficult to compact, it is recommended to lay two layers of soling stones (230 mm in thickness in total) on the excavated surface and well compacted with a vibro roller before placing the mud-mat.
- b) The excavation should be done in a controlled fashion, so that the layer below foundation level is not disturbed / loosened.

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- c) Flooding of the excavation is not permitted and is to be strictly avoided.
- d) Precautions to be taken to ensure that the rain water does not flow into the excavation, particularly till the mud-mat is placed. This can be achieved by placing a 40 cm earthen bund or 2 layers of sand bags around the excavation at top and draining the surface water away from the excavation.
- e) Proper surface drainage away from the excavation should be provided to prevent surface water entering the excavation.

14. Settlement Observations:

Settlement observations are highly recommended as they will give valuable information on the performance of the foundation system adopted.

The settlement information is also invaluable, as it will significantly contribute to improvements in design procedures, ensuring economy along with safety for your similar projects in future.

The following options could be followed for settlement observations:

- a) Option 1: Settlement plates on the floor. The levelling staff can be placed on the plates and the Reduced Level (RL) of the floor could be measured at regular intervals.
- b) Option 2: 15 cm x 15 cm steel plates with cross lines engraved in them can be fixed to columns in case of framed structures and to walls in case of masonry structures.

For a typical raft, the settlement measurements should be measured in 7 locations. One at the centre, four at the edges and two at the sides as shown in Figure 1 below.

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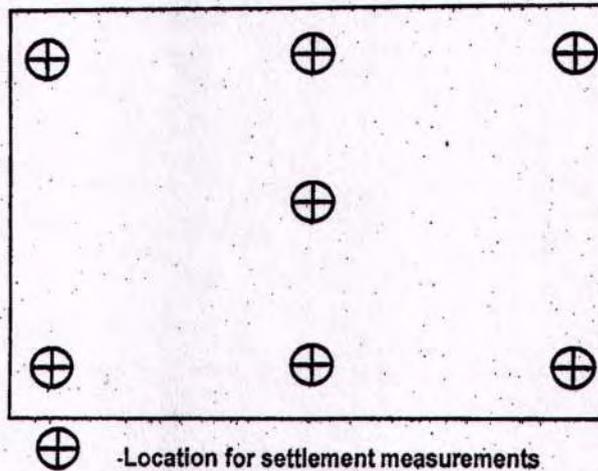


Figure 1: Typical raft showing the locations for settlement observations.

15. Recommendations and Conclusions:

- M/s. Young Builders Private Limited is proposing a project in New Delhi. The proposed project consists of five multi storied high rise towers (Towers A, B, C, D and E) and EWS flats.
- All the towers have the structural configuration of 2B + G + 38 upper floors.
- Total 10 boreholes have been carried out by M/s. Rao Engineering Enterprises, New Delhi (Initial Soil Investigations).
- Ground Water Table (GWT) was reported at depths ranging from 7.5 m to 7.7 m below EGL in the initial soil investigations carried out in May 2009.
- Three confirmatory boreholes have been carried out by M/s. Ground Engineering Private Limited, New Delhi.

- GWT was reported at depths ranging from 8.45 m to 10.2 m below EGL in the confirmatory soil investigations carried out in February 2018.
- Raft foundations are recommended for all the towers. The raft foundation recommendations is based on the assumptions that the water table will be lowered ahead of the excavation to 1 m below the bottom of excavation i.e., base of the raft and maintained till enough downward load is mobilized to resist the uplift pressure.
- For Towers A, B, C and EWS flats, raft with 1 m offset from tower foot print is recommended.
- For Towers D and E, raft with 1.5 m offset from tower foot print is recommended.
- Isolated footings are recommended for extended basements. The safe bearing capacities of the isolated footings are ranging from 7 t/m² to 27 t/m² for sizes ranging from 2 m x 2 m to 5 m x 5 m. The recommended sub-grade modulus is 3 kg/cm³.
- It is extremely important to lower the water table 1 m below the founding level in advance i.e., before the excavation is done i.e., 13.05 m below EGL. Dewatering scheme has to be designed by a specialist agency on a design execution basis.
- The final excavation depth is about 12 m below EGL for the towers and about 11 m below EGL for extended basements. The shoring system i.e., touch piles with temporary earth anchors and grout columns in the rear and fascia wall on the basement side or diaphragm wall with temporary earth anchors has to be designed by a specialist agency on a design execution basis.



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> Settlement observations are highly recommended as they will give valuable information on the performance of the foundation system adopted. This will help in optimum design of foundations for your future projects.

T. Jaya Bharathi
Prepared by
(T. Jayabharati)

C. R. Balaji
Reviewed by
(C.R. Balaji)
C. R. BALAJI
Senior Partner
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Hyderabad - 500 032.

Prof. Dr.-Ing. V.S. Raju
Reviewed & Approved by
(Prof. V.S. Raju)
FOUNDATION AND GEOTECHNICAL CONSULTANT

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16. References:

- ❖ IS 1904:1986 – Code of practice for design and construction of foundations in soils: General requirements.
- ❖ IS: 6403 - 1981 – Code of practice for determination of bearing capacity of shallow foundations.
- ❖ IS: 8009 - (Part 1), 1976 - Code of practice for calculation of settlements of foundations – Part 1- shallow foundations subjected to symmetrical static vertical loads.
- ❖ Correlation between SPT N value and soil modulus, E_s by Schultze and Muhs – Cohesion-less soils.
- ❖ IS: 16700 – 2017 - Code of practice for "Criteria for structural Safety of Tall Concrete Buildings".

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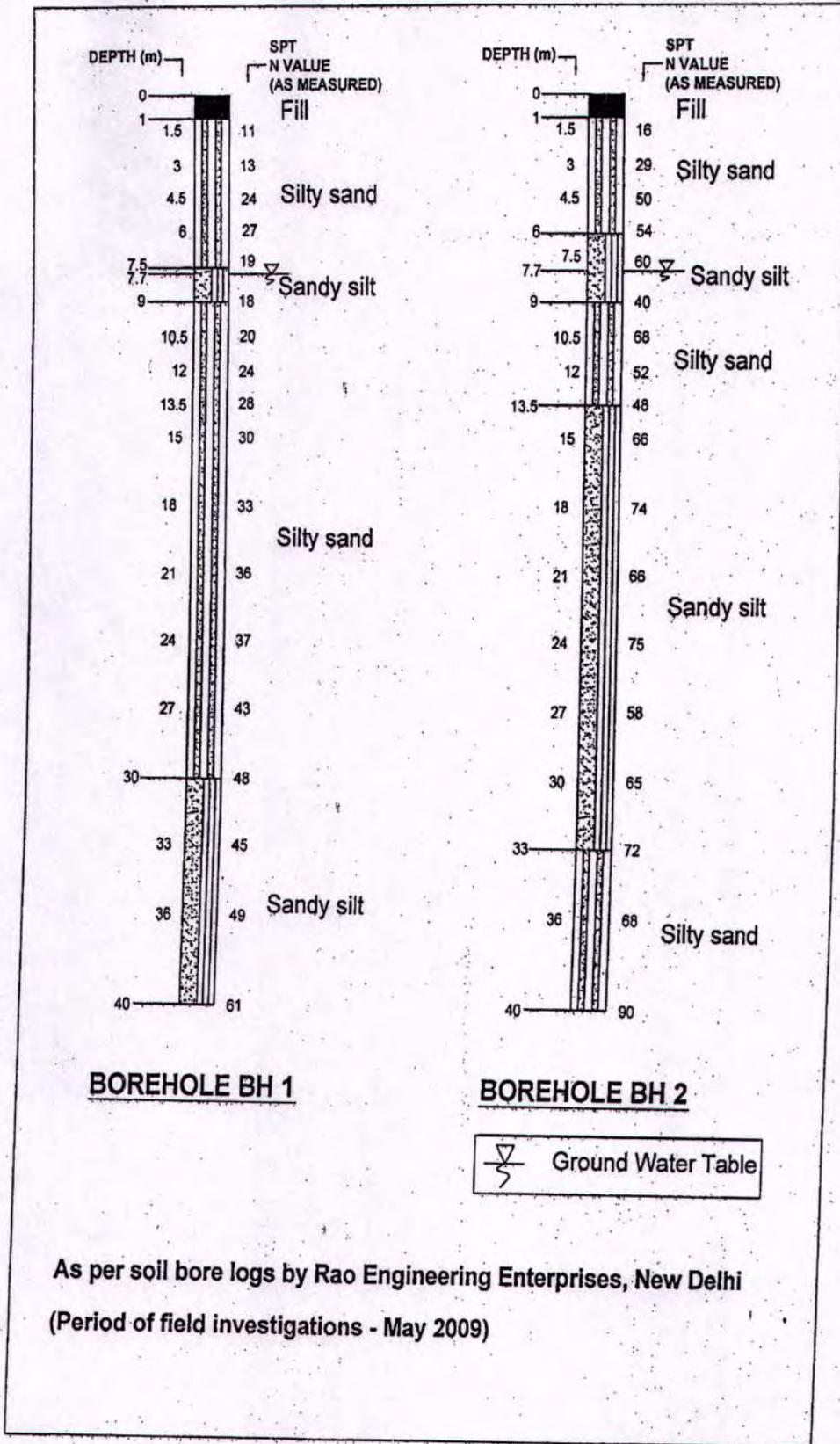
ENCLOSURE 1

BORE LOGS AS PER INITIAL SOIL INVESTIGATIONS



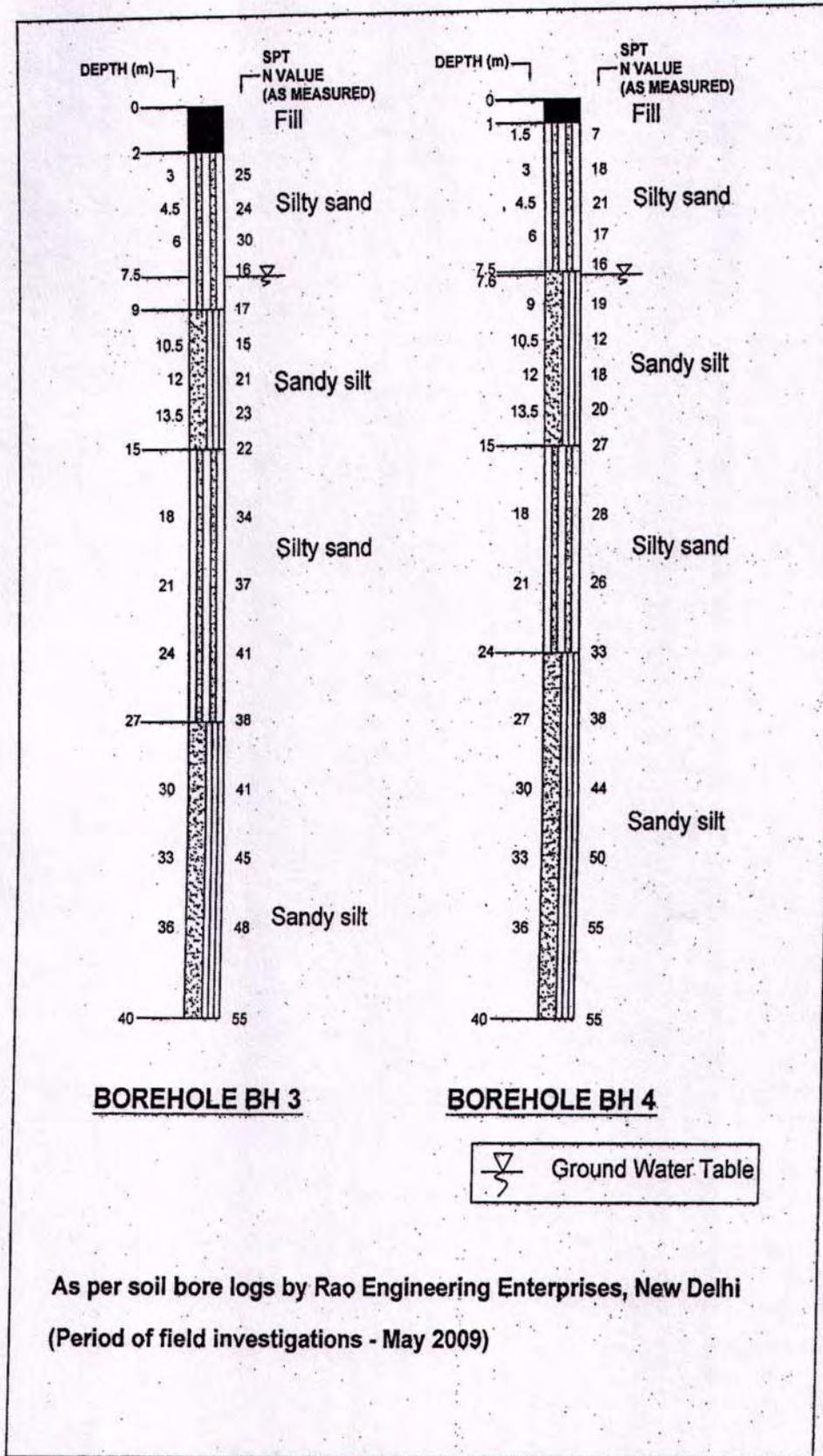
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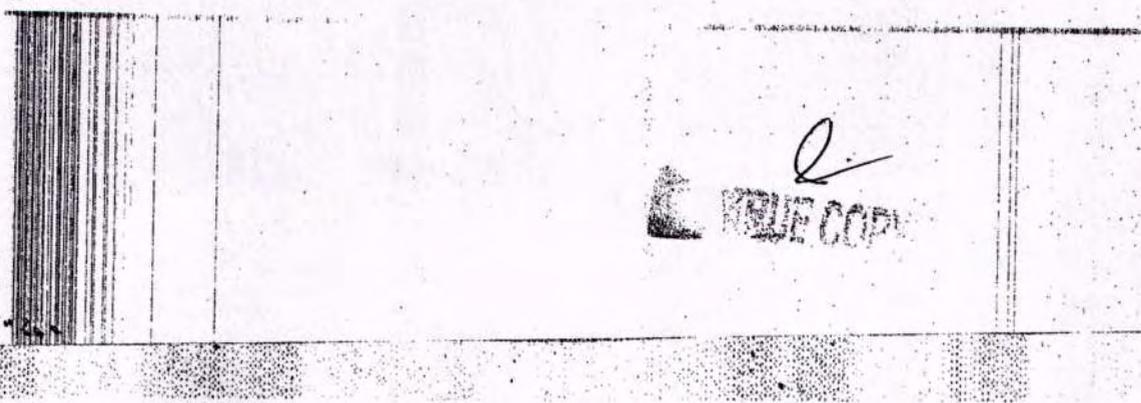
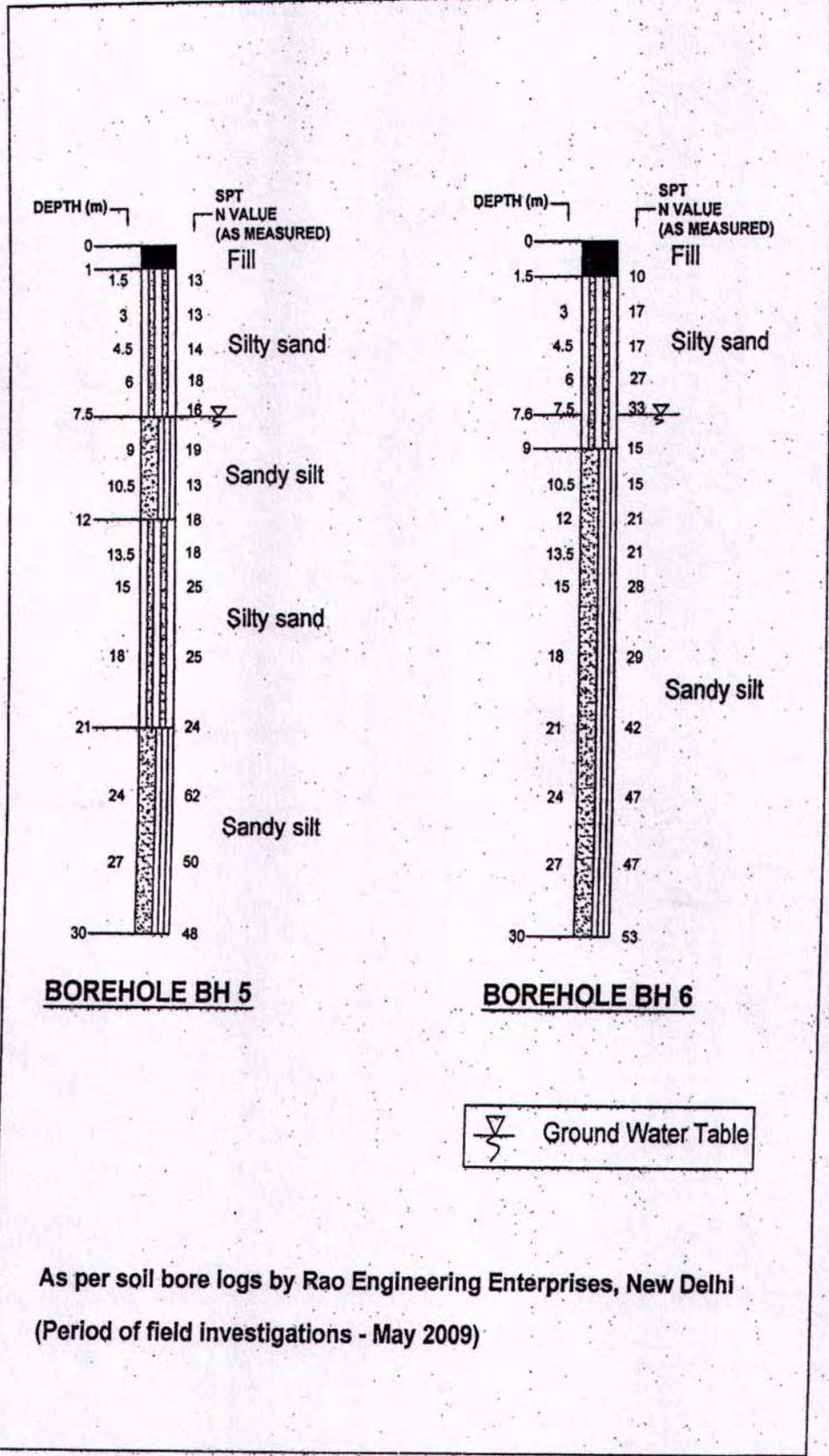
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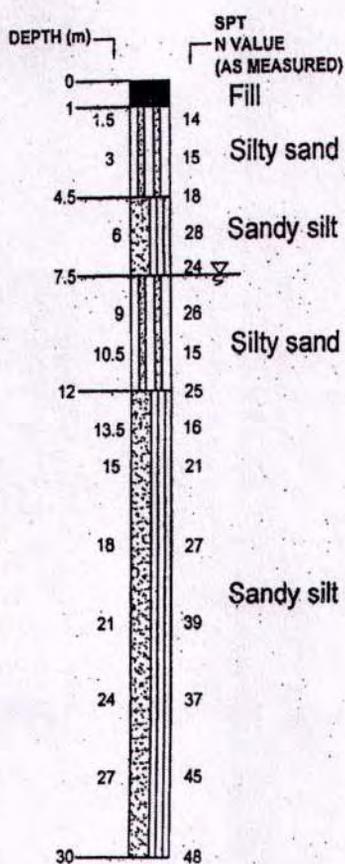
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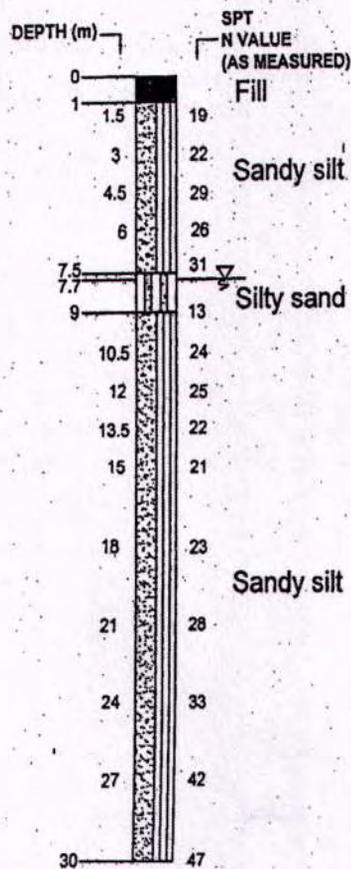
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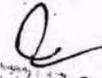
BOREHOLE BH 7



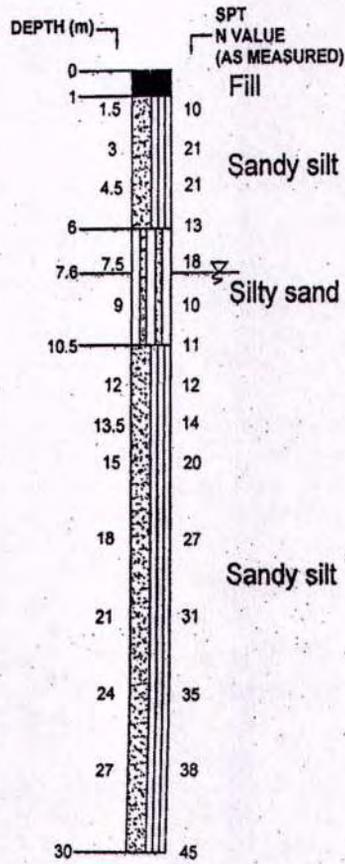
BOREHOLE BH 8

 Ground Water Table

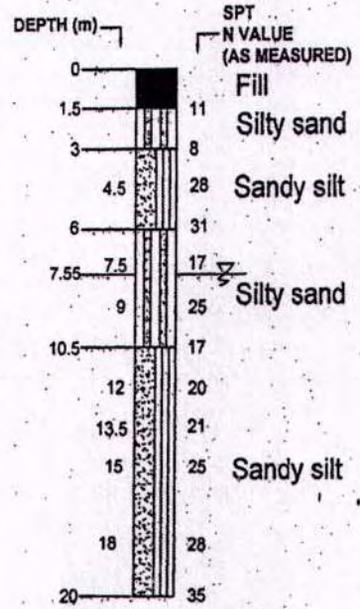
As per soil bore logs by Rao Engineering Enterprises, New Delhi
 (Period of field investigations - May 2009)


 RAO ENGINEERING ENTERPRISES

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BOREHOLE BH 9



BOREHOLE BH 10


 Ground Water Table

As per soil bore logs by Rao Engineering Enterprises, New Delhi
 (Period of field investigations - May 2009)



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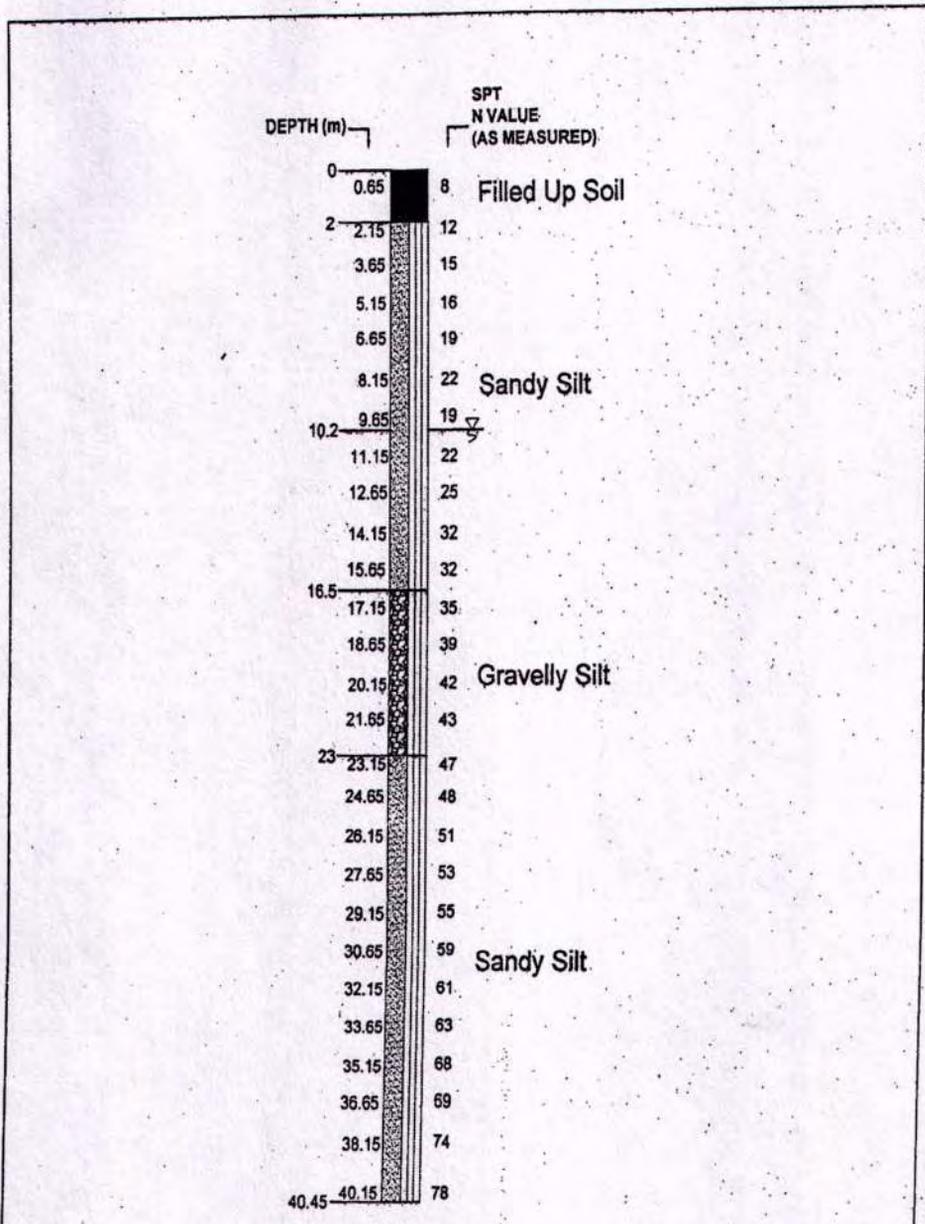
ENCLOSURE 2

BORE LOGS AS PER CONFIRMATORY
SOIL INVESTIGATIONS



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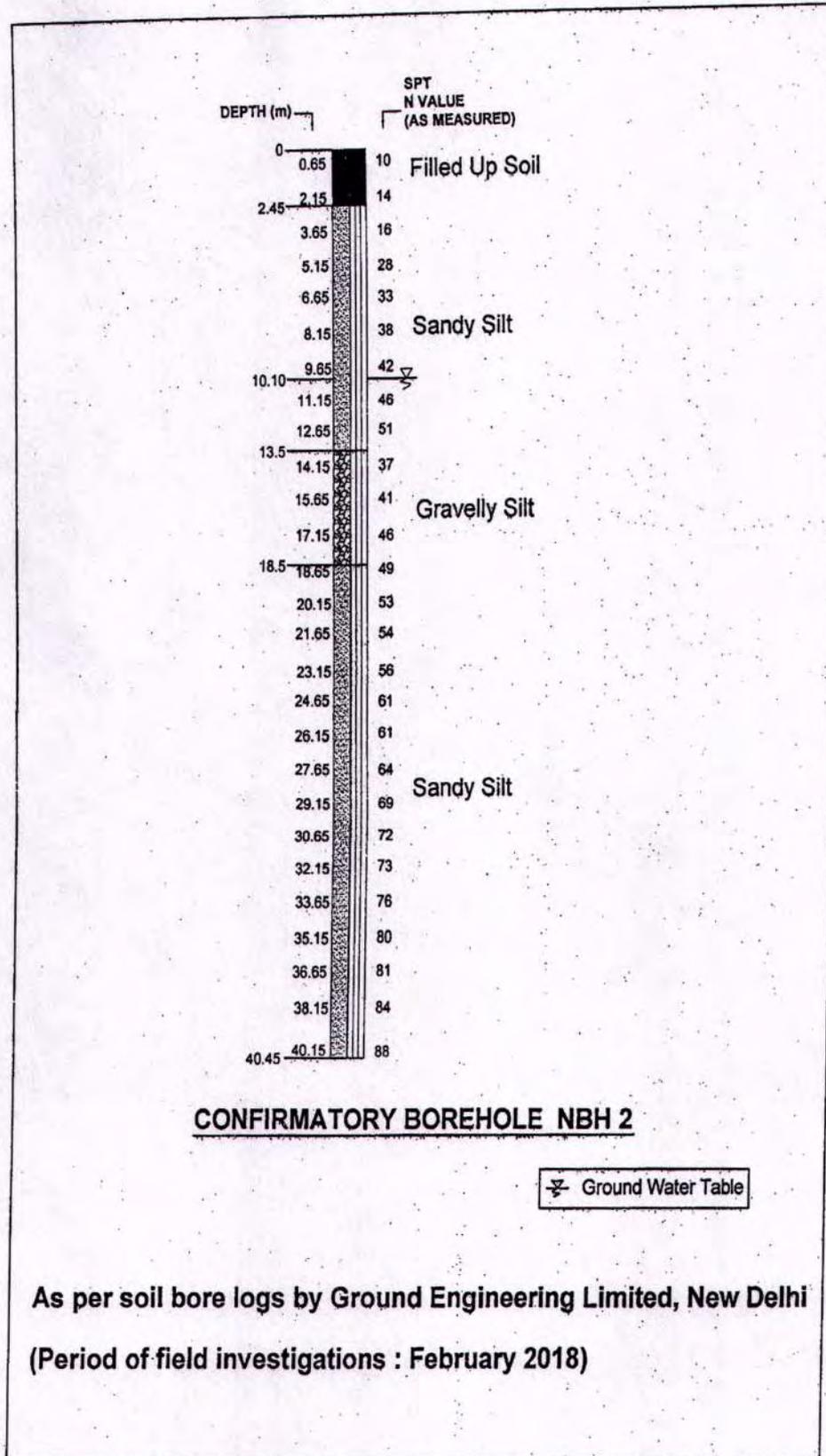
CONFIRMATORY BOREHOLE NBH 1

☞ Ground Water Table

As per soil bore logs by Ground Engineering Limited, New Delhi
(Period of field investigations : February 2018)

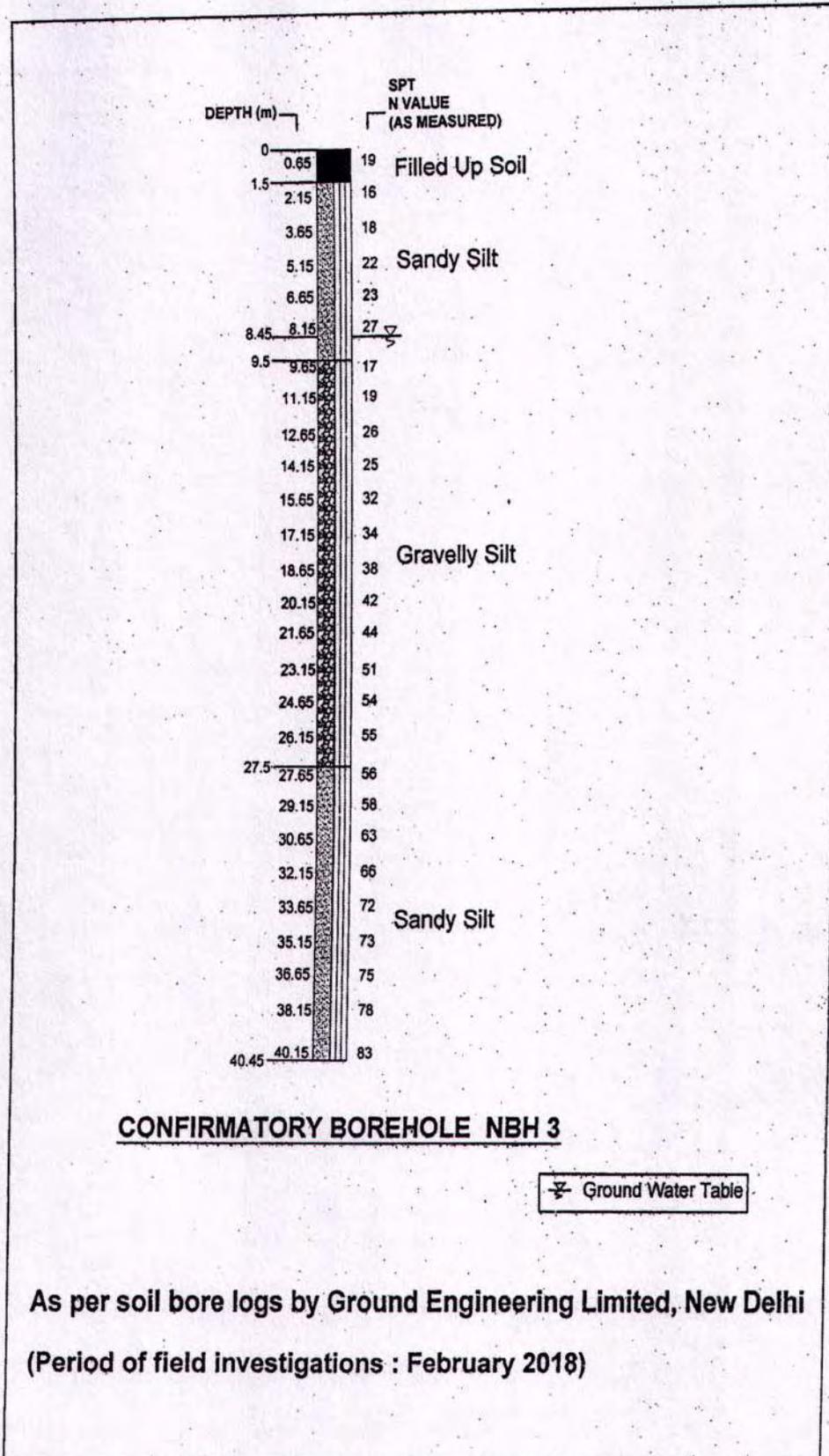
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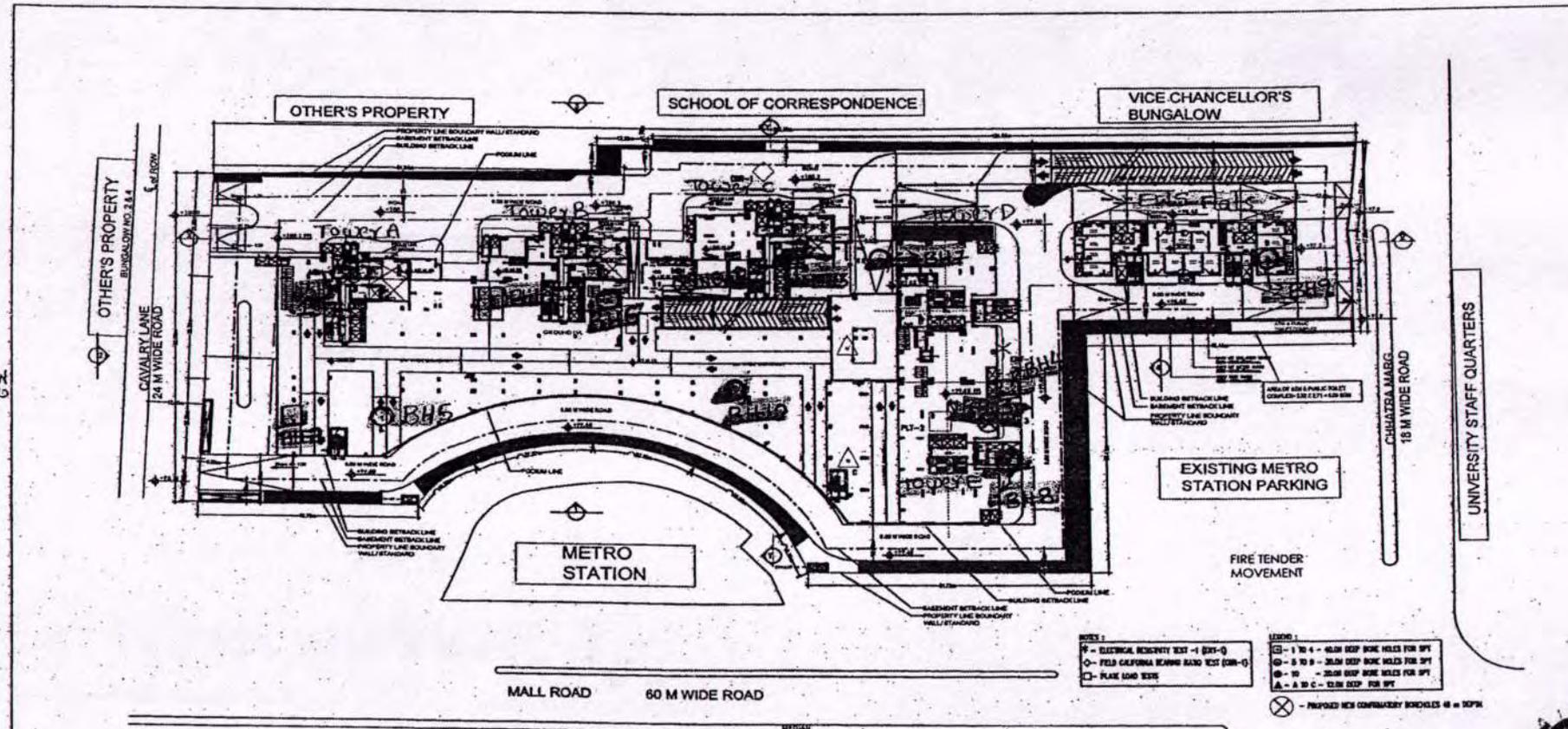
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ENCLOSURE 3

SITE PLAN SHOWING THE LOCATION OF
PROPOSED TOWERS AND BOREHOLES



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- Boreholes as per initial soil investigations
 - Boreholes as per confirmatory soil investigations

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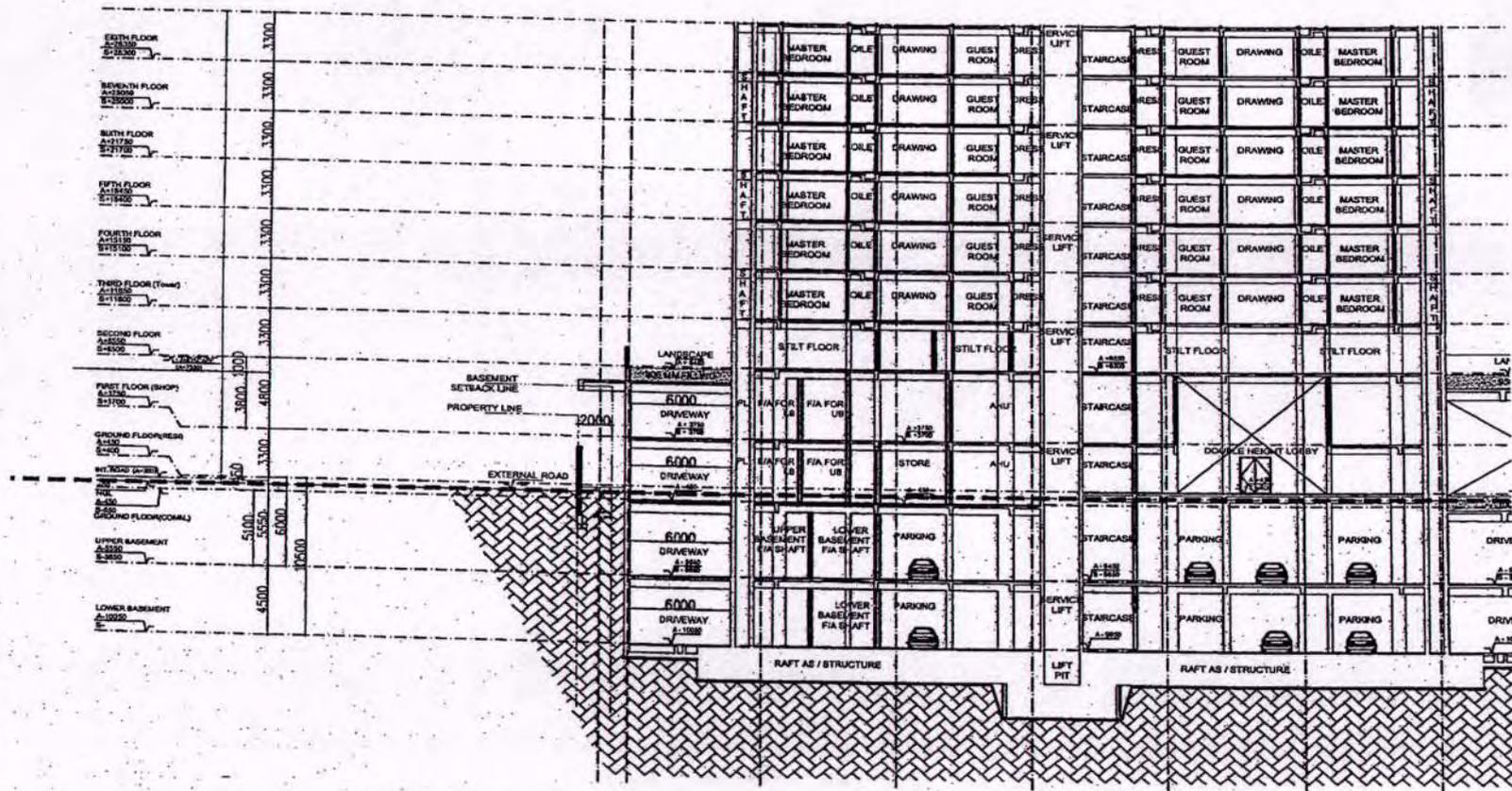
ENCLOSURE 4

SECTION SHOWING FINISHED FLOOR LEVEL OF THE
LOWEST BASEMENT (2nd BASEMENT)



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ENCLOSURE 5

SCHULTZE AND MUHS CORRELATION
BETWEEN SPT N AND SOIL MODULUS (E_s)
FOR COHESION-LESS SOILS

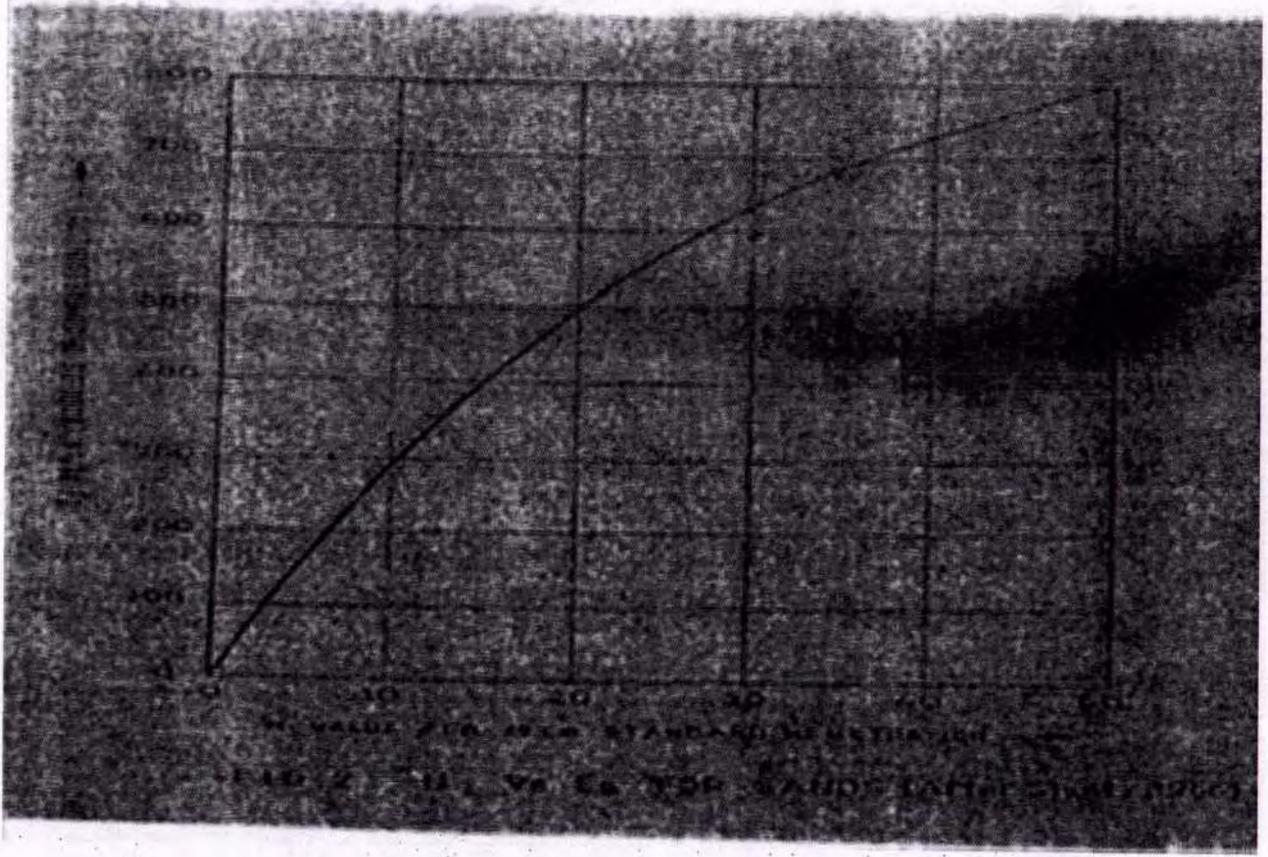
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ENCLOSURE 6

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MAIL DATED 12.03.2018 FROM CIVITECH
CONSULTANTS PRIVATE LIMITED REGARDING
AVERAGE LOADING INTENSITY PER FLOOR

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Fwd: Residential Project at Viswavidyalaya Metro Station - Information Required
Yahoo/Inbox

Rajesh Kumar <rkdcivtech.in>
To: raju vegesna, Rajiv Ranjan
12 Mar at 2:01 PM

----- Forwarded message -----

From: Saji Antony <sajicivtech.in>
Date: Mon, Mar 12, 2018 at 1:59 PM
Subject: Re: Residential Project at Viswavidyalaya Metro Station - Information Required
To: rajivranjan@youngbuilders.in, Rajesh Kumar <rkdcivtech.in>
Cc: RK Bholā <rkbholacivtech.in>

Sir

- Please find the drawings attached.
1. For 1 & 4 Ground floor Plan attached with tower foot print marked.
 2. for 2&3 Section drawing attached.
 3. average load intensity per floor is **15KN/SQM**

Thanks & regards
Saji


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ENCLOSURE 7

TYPICAL SAFE BEARING CAPACITY
CALCULATIONS OF RAFT WITH 1 m
OFFSET (TOWER A FOR NBH 1)


EURECO

Project: Group Housing at Vishwavidyalaya Metro Station, New Delhi

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BEARING CAPACITY BASED ON SHEAR CRITERIA (Based on IS: 6403-1981)

Sub: Safe Bearing capacity for Tower A with 1 m offset and 2 m thick raft as per NBH 1

| | | |
|--|---|----------------------|
| Bore Hole | = | NBH 1 |
| Ground water table location (Dw) | = | 10.2 m |
| Unit weight of soil (weighted average) (γ) | = | 1.8 t/m ³ |
| Submerged unit weight of soil (γ') | = | 1 t/m ³ |
| Average SPT $N_{corrected}$ value (Considered upto 1.5 B (as per IS 6403 - 1981)) | = | 51 |

| | | |
|--|---|-----------------------|
| Type of Foundation: | = | Raft Foundation |
| Founding Level | = | 12.05 m |
| Type of Analysis $N_{corrected} \geq 30$ | = | General Shear Failure |

| | | |
|------------------------|---|---------|
| Thickness of Raft (Df) | = | 2 m |
| Length of Raft (L) | = | 28.22 m |
| Width of Raft (B) | = | 26.40 m |

| | | |
|---------------------------------------|---|---------|
| Angle of internal friction (ϕ) | = | 30 deg. |
|---------------------------------------|---|---------|

| | | |
|--------------|---|--------------------|
| Cohesion (C) | = | 0 t/m ² |
|--------------|---|--------------------|

| | | |
|---------------------------------|---|-------|
| Bearing capacity factors | | |
| N_c | = | 30.14 |
| N_q | = | 18.40 |
| N_γ | = | 22.40 |

| | | |
|----------------------|---|------|
| Shape factors | | |
| S_c | = | 1.19 |
| S_q | = | 1.19 |
| S_γ | = | 0.63 |

| | | |
|----------------------|---|------|
| Depth factors | | |
| d_c | = | 1.03 |
| d_q | = | 1.01 |
| d_γ | = | 1.01 |

| | | |
|-----------------------------------|---|--------------------|
| Effective overburden pressure (q) | = | 2 t/m ² |
| Factor of safety (FoS) | = | 2.5 |

Ultimate Bearing Capacity (UBC)

$$UBC = C \cdot N_c \cdot S_c \cdot d_c \cdot i_c + q \cdot (N_q - 1) \cdot S_q \cdot d_q \cdot i_q + 0.5 \cdot B \cdot \gamma \cdot N_\gamma \cdot S_\gamma \cdot d_\gamma \cdot i_\gamma \cdot w$$

Where, w = Water table correction factor

w = 0.50

Ultimate Bearing Capacity = 211 t/m²

Safe bearing capacity as per General Shear Failure criteria,

(SBC) = UBC/FoS = 84 t/m²

Project: Group Housing at Vishwavidyalaya Metro Station, New Delhi

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Subject: SPT 'N' Correction for NBH 1

| | | | | | |
|-------|------|---|---------------------------------------|----|-------------------|
| GWT = | 10.2 | m | Submerged unit weight (γ') | 10 | kN/m ³ |
| | | | Bulk Unit weight of soil (γ) | 18 | kN/m ³ |

| Depth (m) | Bulk Unit weight of soil (γ) (kN/m ³) | Over burden pressure P' (kN/m ²) | SPT N | SPT N' (Overburden Correction) | SPT N'' (After dilatancy Correction) |
|-----------|--|--|-------|--------------------------------|--------------------------------------|
| 12.05 | 18 | 202 | 22 | 22 | 22 |
| 12.65 | 18 | 208 | 25 | 25 | 25 |
| 14.15 | 18 | 223 | 32 | 32 | 32 |
| 15.65 | 18 | 238 | 32 | 32 | 32 |
| 17.15 | 18 | 253 | 35 | 35 | 35 |
| 18.65 | 18 | 268 | 39 | 39 | 39 |
| 20.15 | 18 | 283 | 42 | 42 | 42 |
| 21.65 | 18 | 298 | 43 | 43 | 43 |
| 23.15 | 18 | 313 | 47 | 47 | 47 |
| 24.65 | 18 | 328 | 48 | 48 | 48 |
| 26.15 | 18 | 343 | 51 | 51 | 51 |
| 27.65 | 18 | 358 | 53 | 53 | 53 |
| 29.15 | 18 | 373 | 55 | 55 | 55 |
| 30.65 | 18 | 388 | 59 | 59 | 59 |
| 32.15 | 18 | 403 | 61 | 61 | 61 |
| 33.65 | 18 | 418 | 63 | 63 | 63 |
| 35.15 | 18 | 433 | 68 | 68 | 68 |
| 36.65 | 18 | 448 | 69 | 69 | 69 |
| 38.15 | 18 | 463 | 74 | 74 | 74 |
| 40.15 | 18 | 483 | 78 | 78 | 78 |
| 51.65 | 18 | 598 | 78 | 78 | 78 |

Average SPT N value 51

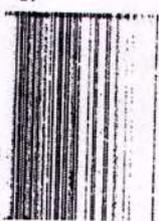
Note: No correction has been applied as the reported soil is Sandy Silt and Gravelly Silt.

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ENCLOSURE 8

TYPICAL CALCULATIONS OF GROSS BEARING
PRESSURE, NET BEARING PRESSURE AND
SETTLEMENTS OF RAFT WITH 1 m OFFSET
(TOWER A FOR NBH 1)

519



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ENGINEERING

5290

Prof. V.S. Raju Consultants

Project: Proposed Group Housing at Vishwavidyalaya Metro Station, New Delhi

Sub: Calculations of Net bearing pressure for Tower A (2B + Ground Floor + 38 Floors):

| | | | |
|---|---|-------|------------------|
| Borehole Number | = | NBH 1 | |
| Area of foot print of the tower | = | 599 | m ² |
| Total area of the raft with 1 m offset from tower footprint | = | 745 | m ² |
| Founding Level of the raft | = | 12.05 | m |
| Ground water table location (Dw) | = | 10.2 | m |
| Unit weight of the soil | = | 1.8 | t/m ³ |
| Submerged unit weight of soil (γ') | = | 1 | t/m ³ |
| Loads: | | | |
| Load due to each basement | = | 1.5 | t/m ² |
| Load due to each floor | = | 1.5 | t/m ² |
| Load due to water tank | = | 2 | t/m ² |


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Prof.V.S.Raju Consultants

Total load due to all the floors(G + 34 storeys)
per unit area of the tower footprint

$$= 39 \times \{ (1.5 \times 599) / (599) \}$$

$$= 58.5 \text{ t/m}^2$$

Total load due to all the floors with 2 basement , roof & water tank (2B + G + 38 storeys)

$$= 58.5 + 3 + 2$$

$$= 63.5 \text{ t/m}^2$$

Load on the raft due to tower

$$= \frac{\text{(Area of foot print of the tower * Load per unit area)}}{\text{(area of the raft)}}$$

$$= \frac{599 \times 63.5}{745}$$

$$= 51.1 \text{ t/m}^2$$

Thickness of the raft

$$= 2 \text{ m}$$

Self weight of the raft

$$= 2.5 \times 2$$

$$= 5 \text{ t/m}^2$$

Total Gross bearing pressure at base of the raft

$$= 56.1 \text{ t/m}^2$$

Net bearing pressure

$$= \text{Gross bearing pressure - overburden pressure @ base of footing}$$

Overburden pressure

$$= 10.2 \times 1.8 + 1.9 \times 1$$

Net bearing pressure

$$= 20.2 \text{ t/m}^2$$

$$= 56.1 - 20.2$$

$$= 35.8 \text{ t/m}^2$$

Net bearing pressure on the raft is 35.8 t/m²

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Project: Proposed Group Housing at Vishwavidyalaya Metro Station, New Delhi

Calculation of Settlements of Raft for Tower A based on Boussinesq Equation

Settlements are calculated as per IS 8009 (Part 1) 1976 for

NBH 1

| Soil strata | Depth | Thickness (m) | SPT (N) | Es (t/m ²) | Settlement (mm) |
|-------------|---------------|---------------|---------|------------------------|-----------------|
| L0 | 12.05 - 12.65 | 0.6 | 22 | 5300 | 4.06 |
| L1 | 12.65 - 14.15 | 1.5 | 25 | 5700 | 9.43 |
| L2 | 14.15 - 15.65 | 1.5 | 32 | 6500 | 8.22 |
| L3 | 15.65 - 16.5 | 0.85 | 32 | 6500 | 4.61 |
| L4 | 16.5 - 18.65 | 2.15 | 35 | 6800 | 10.87 |
| L5 | 18.65 - 20.15 | 1.5 | 39 | 7200 | 6.84 |
| L6 | 20.15 - 21.65 | 1.5 | 42 | 7400 | 6.33 |
| L7 | 21.65 - 23 | 1.35 | 43 | 7500 | 5.31 |
| L8 | 23 - 24.65 | 1.65 | 47 | 7800 | 5.83 |
| L9 | 24.65 - 26.15 | 1.5 | 48 | 7900 | 4.84 |
| L10 | 26.15 - 27.65 | 1.5 | 51 | 8087.5 | 4.38 |
| L11 | 27.65 - 29.15 | 1.5 | 53 | 8262.5 | 3.95 |
| L12 | 29.15 - 30.65 | 1.5 | 55 | 8437.5 | 3.56 |
| L13 | 30.65 - 32.15 | 1.5 | 59 | 8787.5 | 3.15 |
| L14 | 32.15 - 33.65 | 1.5 | 61 | 8962.5 | 2.84 |
| L15 | 33.65 - 35.15 | 1.5 | 63 | 9137.5 | 2.57 |
| L16 | 35.15 - 36.65 | 1.5 | 68 | 9575 | 2.26 |
| L17 | 36.65 - 38.15 | 1.5 | 69 | 9662.5 | 2.07 |
| L18 | 38.15 - 40.15 | 2 | 74 | 10100 | 2.41 |
| L19 | 40.15 - 51.65 | 11.5 | 78 | 10450 | 9.62 |

Note: For $N \leq 50$, Es values are obtained from Schultze and Muhs correlation

For $N > 50$, $E_s = E_s @ N = 50 + [(N - 50) * 87.5]$ in t/m^2

Foundation Level will be @ 12.05 m for a raft thickness of 2 m.

Gross bearing pressure @ 12.05 m = 56.1 t/m^2

Net bearing pressure @ 12.05 m = 35.8 t/m^2

Raft size based on 1 m offset from tower footprint = 745 m^2

For the purpose of settlement calculation, considering an equivalent rectangular raft with same area as

Raft size (2L x 2B) = 28.21 x 26.40 = 745

L x B = 14.105 x 13.2 m

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| | | | |
|-----------------|---------------|---|-------------|
| <u>Layer L0</u> | 12.05 - 12.65 | 0.6 | m thickness |
| $Z_0 =$ | 0.3 | m | |
| $L/Z_0 =$ | 47.02 | $B/Z_0 =$ | 44.00 |
| $I_B =$ | 0.2500 | (Referring to Fig - 18 of IS : 8009 (Part 1)) | |
| $\sigma_z =$ | 35.85 | t/m^2 | |
| $S_0 =$ | 4.06 | mm | |
| | | | |
| <u>Layer L1</u> | 12.65 - 14.15 | 1.5 | m thickness |
| $Z_0 =$ | 1.35 | m | |
| $L/Z_0 =$ | 10.45 | $B/Z_0 =$ | 9.78 |
| $I_B =$ | 0.2499 | (Referring to Fig - 18 of IS : 8009 (Part 1)) | |
| $\sigma_z =$ | 35.84 | t/m^2 | |
| $S_1 =$ | 9.43 | mm | |
| | | | |
| <u>Layer L2</u> | 14.15 - 15.65 | 1.5 | m thickness |
| $Z_0 =$ | 2.85 | m | |
| $L/Z_0 =$ | 4.95 | $B/Z_0 =$ | 4.63 |
| $I_B =$ | 0.2485 | (Referring to Fig - 18 of IS : 8009 (Part 1)) | |
| $\sigma_z =$ | 35.63 | t/m^2 | |
| $S_2 =$ | 8.22 | mm | |
| | | | |
| <u>Layer L3</u> | 15.65 - 16.5 | 0.85 | m thickness |
| $Z_0 =$ | 4.025 | m | |
| $L/Z_0 =$ | 3.50 | $B/Z_0 =$ | 3.28 |
| $I_B =$ | 0.2458 | (Referring to Fig - 18 of IS : 8009 (Part 1)) | |
| $\sigma_z =$ | 35.24 | t/m^2 | |
| $S_3 =$ | 4.61 | mm | |
| | | | |
| <u>Layer L4</u> | 16.5 - 18.65 | 2.15 | m thickness |
| $Z_0 =$ | 5.525 | m | |
| $L/Z_0 =$ | 2.55 | $B/Z_0 =$ | 2.39 |
| $I_B =$ | 0.2399 | (Referring to Fig - 18 of IS : 8009 (Part 1)) | |
| $\sigma_z =$ | 34.39 | t/m^2 | |
| $S_4 =$ | 10.87 | mm | |

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Layer L5 18.65 - 20.15 1.5 m thickness
 $Z_0 =$ 7.35 m
 $L/Z_0 =$ 1.92 $B/Z_0 =$ 1.80
 $I_B =$ 0.2290 (Referring to Fig - 18 of IS : 8009 (Part 1))
 $\sigma_z =$ 32.84 t/m^2
 $S5 =$ 6.84 mm

Layer L6 20.15 - 21.65 1.5 m thickness
 $Z_0 =$ 8.85 m
 $L/Z_0 =$ 1.59 $B/Z_0 =$ 1.49
 $I_B =$ 0.2177 (Referring to Fig - 18b of IS : 8009 (Part 1))
 $\sigma_z =$ 31.21 t/m^2
 $S6 =$ 6.33 mm

Layer L7 21.65 - 23 1.35 m thickness
 $Z_0 =$ 10.275 m
 $L/Z_0 =$ 1.37 $B/Z_0 =$ 1.28
 $I_B =$ 0.2056 (Referring to Fig - 18b of IS : 8009 (Part 1))
 $\sigma_z =$ 29.48 t/m^2
 $S7 =$ 5.31 mm

Layer L8 23 - 24.65 1.65 m thickness
 $Z_0 =$ 11.775 m
 $L/Z_0 =$ 1.20 $B/Z_0 =$ 1.12
 $I_B =$ 0.1922 (Referring to Fig - 18b of IS : 8009 (Part 1))
 $\sigma_z =$ 27.55 t/m^2
 $S8 =$ 5.83 mm

Layer L9 24.65 - 26.15 1.5 m thickness
 $Z_0 =$ 13.35 m
 $L/Z_0 =$ 1.06 $B/Z_0 =$ 0.99
 $I_B =$ 0.1778 (Referring to Fig - 18b of IS : 8009 (Part 1))
 $\sigma_z =$ 25.50 t/m^2
 $S9 =$ 4.84 mm

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| | | | |
|------------------|---------------|---------|--|
| <u>Layer L10</u> | 26.15 - 27.65 | 1.5 | m thickness |
| Z0 = | 14.85 | m | |
| L/Z0 = | 0.95 | | B/Z0 = 0.89 |
| IB = | 0.1645 | | (Referring to Fig - 18b of IS : 8009 (Part 1)) |
| σ_z = | 23.59 | t/m^2 | |
| S10 = | 4.38 | mm | |
| | | | |
| <u>Layer L11</u> | 27.65 - 29.15 | 1.5 | m thickness |
| Z0 = | 16.35 | m | |
| L/Z0 = | 0.86 | | B/Z0 = 0.81 |
| IB = | 0.1518 | | (Referring to Fig - 18b of IS : 8009 (Part 1)) |
| σ_z = | 21.76 | t/m^2 | |
| S11 = | 3.95 | mm | |
| | | | |
| <u>Layer L12</u> | 29.15 - 30.65 | 1.5 | m thickness |
| Z0 = | 17.85 | m | |
| L/Z0 = | 0.79 | | B/Z0 = 0.74 |
| IB = | 0.1398 | | (Referring to Fig - 18b of IS : 8009 (Part 1)) |
| σ_z = | 20.05 | t/m^2 | |
| S12 = | 3.56 | mm | |
| | | | |
| <u>Layer L13</u> | 30.65 - 32.15 | 1.5 | m thickness |
| Z0 = | 19.35 | m | |
| L/Z0 = | 0.73 | | B/Z0 = 0.68 |
| IB = | 0.1287 | | (Referring to Fig - 18b of IS : 8009 (Part 1)) |
| σ_z = | 18.46 | t/m^2 | |
| S13 = | 3.15 | mm | |
| | | | |
| <u>Layer L14</u> | 32.15 - 33.65 | 1.5 | m thickness |
| Z0 = | 20.85 | m | |
| L/Z0 = | 0.68 | | B/Z0 = 0.63 |
| IB = | 0.1185 | | (Referring to Fig - 18b of IS : 8009 (Part 1)) |
| σ_z = | 16.99 | t/m^2 | |
| S14 = | 2.84 | mm | |

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Layer L15 33.65 - 35.15 1.5 m thickness
 Z0 = 22.35 m
 L/Z0 = 0.63 B/Z0 = 0.59
 IB = 0.1092 (Referring to Fig - 18b of IS : 8009 (Part 1))
 σ_z = 15.65 t/m^2
 S15 = 2.57 mm

Layer L16 35.15 - 36.65 1.5 m thickness
 Z0 = 23.85 m
 L/Z0 = 0.59 B/Z0 = 0.55
 IB = 0.1007 (Referring to Fig - 18b of IS : 8009 (Part 1))
 σ_z = 14.43 t/m^2
 S16 = 2.26 mm

Layer L17 36.65 - 38.15 1.5 m thickness
 Z0 = 25.35 m
 L/Z0 = 0.56 B/Z0 = 0.52
 IB = 0.0930 (Referring to Fig - 18b of IS : 8009 (Part 1))
 σ_z = 13.33 t/m^2
 S17 = 2.07 mm

Layer L18 38.15 - 40.15 2 m thickness
 Z0 = 27.1 m
 L/Z0 = 0.52 B/Z0 = 0.49
 IB = 0.0849 (Referring to Fig - 18b of IS : 8009 (Part 1))
 σ_z = 12.17 t/m^2
 S18 = 2.41 mm

Layer L19 40.15 - 51.65 11.5 m thickness
 Z0 = 33.85 m
 L/Z0 = 0.42 B/Z0 = 0.389955687
 IB = 0.06
 σ_z = 8.74
 S19 = 9.62 mm

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Settlement = 103.15 mm
(Sum of S0 to S19)

Calculation of Correction factors:

1. Rigidity factor = 0.8 (Ref: 9.5.2 of IS: 8009 (Part 1))

2. Depth factor

Depth = 12.05 m

Length = 28.21 m

Width = 26.40 m

$D / (L \times B)^{0.5} = 0.44$

$L / B = 1.07$

Depth factor = 0.87 (Ref: Fig - 12 of IS:8009 (Part 1))

Applying rigidity factor and depth factor correction

Total settlement = $(103.15 \times 0.8 \times 0.87)$ = 71 mm

Subgrade modulus = $\frac{\text{Gross bearing pressure}}{\text{settlement}}$ = 7895 kN/m³
= 0.79 kg/cm³

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ENCLOSURE 9

TYPICAL SAFE BEARING CAPACITY
CALCULATIONS OF ISOLATED FOOTINGS

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Project: Group Housing at Vishwavidyalaya Metro Station, New Delhi

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BEARING CAPACITY BASED ON SHEAR CRITERIA (Based on IS: 6403-1981)

Safe Bearing Capacity of Isolated Footing

| | | | |
|---|---|-------------------------------|------------------------|
| Bore Hole | = | BH 2 | |
| Ground water table location (Dw) | = | 7.70 | m |
| Unit weight of soil (weighted average) (γ) | = | 1.8 | t/m ³ |
| Submerged unit weight of soil (γ') | = | 1 | t/m ³ |
| Average SPT $N_{corrected}$ value | = | 49 | |
| (Considered upto 1.5 B (as per IS 6403 - 1981)) | | | |
| Type of Foundation | = | Isolated Footing | |
| Founding Level | = | 10.8 | m |
| Type of Analysis $N_{corrected} \geq 30$ | = | General Shear Failure | |
| Thickness of Footing (Df) | = | 0.75 | m |
| Length of Isolated Footing (L) | = | 4 | m |
| Width of Isolated Footing (B) | = | 4 | m |
| Angle of internal friction (ϕ) for Silty Sand layers | = | 32 | deg. |
| Angle of internal friction (ϕ) for Sandy Silt layers | = | 30 | deg. |
| Cohesion (C) | = | 0 | t/m ² |
| Bearing capacity factors | | | |
| N_c | = | 33.02 | |
| N_q | = | 21.08 | |
| N_γ | = | 27.01 | |
| Shape factors | | | |
| S_c | = | 1.3 | (From Table 2 IS:6403) |
| S_q | = | 1.2 | |
| S_γ | = | 0.8 | |
| Depth factors | | | |
| d_c | = | 1.07 | |
| d_q | = | 1.03 | |
| d_γ | = | 1.03 | |
| Effective overburden pressure (q) | = | 0.75 | t/m ² |
| Factor of safety (FoS) | = | 2.5 | |
| Ultimate Bearing Capacity (UBC) | | | |
| $UBC = C * N_c * S_c * d_c * i_c + q * (N_q - 1) * S_q * d_q * i_q + 0.5 * B * \gamma' * N_\gamma * S_\gamma * d_\gamma * i_\gamma * w$ | | | |
| Where, w | = | Water table correction factor | |
| w | = | 0.50 | |
| Ultimate Bearing Capacity | = | 59 | t/m ² |
| Safe bearing capacity as per General Shear Failure criteria, (SBC) = UBC/FoS | = | 24 | t/m ² |

Subject: SPT 'N' Correction for BH 2

Project: Group Housing at Vishwavidyalaya Metro Station, New Delhi

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| | | | | | |
|-----|-----|---|---------------------------------------|----|-------------------|
| GWT | 7.7 | m | Submerged Unit Weight (γ') | 10 | kN/m ³ |
| | | | Bulk unit weight of soil (γ) | 18 | kN/m ³ |

| Depth (m) | Bulk Unit weight of soil (γ) (kN/m ³) | Overburden Pressure P' (kN/m ²) | SPT N | SPT N' (Overburden Correction) | SPT N'' (After dilatancy Correction) |
|-----------|--|---|-------|--------------------------------|--------------------------------------|
| 10.8 | 18 | 170 | 68 | 56 | 36 |
| 12 | 18 | 182 | 52 | 42 | 28 |
| 13.5 | 18 | 197 | 48 | 48 | 48 |
| 15 | 18 | 212 | 66 | 66 | 66 |
| 16.8 | 18 | 230 | 66 | 66 | 66 |

Average corrected SPT N value 49

Note:

1. Correction Factor for Overburden $C_n = 0.77 \cdot \text{LOG}_{10}(2000/P')$ Where P' is Overburden Pressure in kN/m²2. Dilatancy Correction, $N'' = 15 + 0.5 \cdot (N' - 15)$. Where N' is the SPT N corrected for Overburden

Dilatancy correction is to be applied, if the SPT N corrected for overburden is greater than 15 below GWT.

GWT - Ground Water Table.

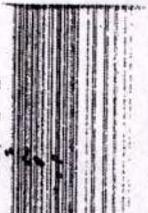
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ANNEXURES 1, 2 & 3

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SOFT COPIES OF:

1. NOTE ON FOUNDATION RECOMMENDATIONS BY
PROF.V.S.RAJU CONSULTANTS COMMUNICATED VIDE
EMAIL DATED 29.03.2018.
2. INITIAL SOIL INVESTIGATION REPORT BY
M/S. RAO ENGINEERING ENTERPRISES, NEW DELHI.
3. CONFIRMATORY SOIL INVESTIGATION REPORT BY
M/S. GROUND ENGINEERING LIMITED, NEW DELHI.

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ANNEXURE-38



663
Civtech ANNEXURE A-28

B-62, DAYANAND COLONY, LAJPAT NAGAR-IV
NEW DELHI-110024, INDIA

Telefax : 91-11-26461713
Email: projects@civtech.in

STRUCTURAL ENGINEERING, ARCHITECTURE, PROJECT MANAGEMENT

Our Reference : CCPL/YBPL/784/L-05

M/S YOUNG BUILDERS PVT. LTD.
43 Babar Road, Bengali Market
NEW DELHI 110 001

11 January, 2020

Kind Attn. : MR. RAJIV RANJAN, VP- Projects

Subject : Soil Investigation for Group Housing Residential Project at I,3 Cavalry Lane & 4, Chhatra Marg near Vishwavidyalaya Metro Station, New Delhi

Dear Sir,

With reference to our discussion regarding the Soil Investigation done for the above project by M/S Rao Engineering Enterprises dated 27.05.09, we would like to confirm as follows:

1. The Soil Investigat on performed as per above is acceptable and good for the designing of the Foundations for the project.
2. Since the soil at the foundation level is un-disturbed for practically thousands of years, there is no possibility of any variation in the soil properties over 20-30 years.
3. In case any further investigation is necessary at any siage to ensure the safety of the project, we will advise you for the same.

Please let us know in case any further information is desired.

Yours truly,
For CIVTECH


RAJENDRA KUMAR BHOLA
Proprietor



B.Tech (Civil) 1983 Indian Institute of Technology, Delhi
M.A.Sc. (Str) 1985 University of British Columbia, Vancouver, Canada
Fellow F-330 Indian Association of Structural Engineers
Member M-313 Consulting Engineers Association of India
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Telefax : 0120-4131184, 2544084, Email: projects@civtech.in

CIVTECH - EXCELLENCE IN ENGINEERING

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Annexure-39
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BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

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PRINCIPAL BENCH, NEW DELHI

APPEAL 112 OF 2018

IN THE MATTER OF

University of Delhi

...APPLICANT

Versus

Ministry of Environment, Forest

and Climate Change &Ors.

....RESPONDENTS

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| S. NO | PARTICULARS | PAGES |
|-------|---|--------------|
| 1 | Reply/Affidavit On Behalf of Department of Forest and Wildlife, Govt. of NCT of Delhi. | 1-7 |
| 2. | The true copy of the documents attached herewith and marked as ANNEXURE R/1 (Colly) | 690 = 705 |
| 3 | The true copy of the site inspection report along with list of affected trees are attached herewith and marked as ANNEXURE R/2. | 706 - 715 |
| 4 | Delhi Gazette-Extra ordinary vide dated 25/05/2011 for development as residential area at 1Cavalry Lane,3 Cavalry Lane & 4 Chhatra Marg by M/s Young Builders Private Limited (Annexed as Annexure - R/3 | 711 |
| 5. | The true copy of the letter dated 25/05/2011 attached herewith and marked as ANNEXURE R/4. | 712 |
| 6. | The true copy of the letter issued by Deputy Conservator of Forest in respect to the compensatory plantation vide dated 01/10/2012 attached herewith and marked as ANNEXURE R/5. | 714 |
| 7. | The true copy of the letters dated 08/10/2012, 04/03/2013 and 15/10/2015 attached herewith and marked as ANNEXURE R/6 (Colly). | 715 - 717 |
| 8. | The true copy of the communications received from the project proponent attached herewith and marked as ANNEXURE R/7. | 718 |

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| | | |
|----|---|-----|
| 9. | The true copy of the letter dated 06/01/2014 attached herewith and marked as ANNEXURE R/8. | 727 |
|----|---|-----|

Profo Services

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FILED BY

Tarunvir Singh

Mr. Tarunvir Singh Khehar
Standing Counsel (NGT), GNCTD
Office:- A2/113 Safdarjung Enclave,
New Delhi-110029
Ph: 9910122225

FILED ON:
New Delhi:

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BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

APPEAL 112 OF 2018

IN THE MATTER OF

University of Delhi

...APPLICANT

Versus

Ministry of Environment, Forest

and Climate Change & Ors.

....RESPONDENTS

REPLY/AFFIDAVIT ON BEHALF OF DEPARTMENT OF FOREST
AND WILDLIFE, GOVT. OF NCT OF DELHI

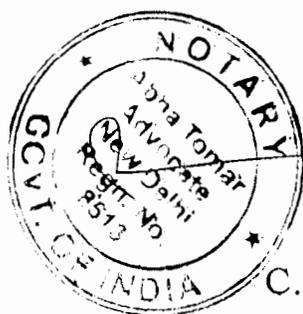


I, Indhu Vijayan N., W/o Simon K.J., aged about 41 years,
presently being the Deputy Conservator of Forest, North
Division, Department of Forest & Wildlife, Govt. of NCT of Delhi,
do hereby solemnly affirm state as under: -

1. That I am working as Deputy Conservator of Forest, North Division, Department of Forest & Wildlife, Govt. of NCT of Delhi and have read the contents of the Appeal filed by the Appellant and the documents annexed therewith and am aware about the documents available with the Department and that I have been authorized by the competent authority to sign and affirm the present affidavit on behalf of

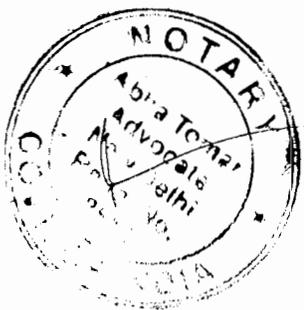
Department of Forest & Wildlife, Govt. of NCT of Delhi
before this Hon'ble National Green Tribunal.

2. That the answering respondent disputes and denies as false, frivolous and vexatious, all the contentions, allegations, claims and averments which are contrary to anything stated or submitted in this affidavit/reply. Nothing in this petition may be deemed to have been accepted or admitted by the answering respondents further craves leave for this Hon'ble Tribunal to file such other/additional affidavit(s)/reply/report as may be necessitated in order to adjudicate the matter in issue in the present the present case.
3. That the applicant filed this present appeal before this Hon'ble tribunal and following relief sought;
 - A. Quash the impugned order dated 23/03/2018 wherein Environment Clearance granted to the Respondent No. 4 namely, M/s Young Builders Private Limited.
 - B. Constitute the Committee of independent expert to study the adverse impact on the Environment due to the proposed project and report the same to this Hon'ble Tribunal.
 - C. Call of the records of the Environment Impact Assessment Report and proceeding before the SIEAA.
4. At the very outset it is most respectfully submitted that the permission for cutting of trees is beyond the scope and



ambit of *schedule I* read with *Section 14 of the National Green Tribunal Act, 2010*. Further, this Hon'ble Tribunal in O.A. No. 69 of 2014 has already held that this Hon'ble Tribunal does not have jurisdiction in this regard.

5. I state that the answering respondent received the application on 29/01/2009 from respondent no. 4 namely, M/s Young Builders Private Limited for felling of 156 trees in an area of 2 Ha. at House No. 1, Cavalary Lane, Delhi; 3 Cavalary Lane, Delhi and 4, Chhatra Marg, Mall Road, Civil Lines, adjoining Vishwa Vidyalaya Metro Station, Delhi. The land was transferred to the M/s Young Builders Private Limited by Delhi Metro Rail Corporation for construction of residential building.
6. I further state that respondent No. 4 namely, M/s Young Builders Private Limited had submitted requisite documents for seeking permission to remove 156 nos. of trees from the site. The required documents submitted by M/s Young Builders Private Limited. The list of documents is as under:

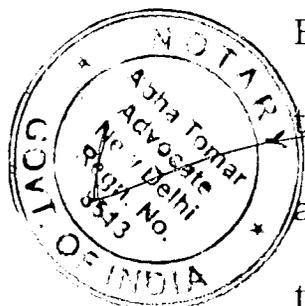


1. Copy of Gazette of India dated 23.09.2005 showing the notification of change of land use of the location where the trees are to be removed.
2. C.L.U issued by Dy. Director (AP) II, Delhi Development Authority letter No. F. 20(2)/2002/MP/Pt.IV/D35 dated 12.02.2007.
3. Form-B along with lease agreement between DMRC & M/s Young Builders Pvt. Ltd.

4. Copy of lease transfer to Developer for 90 years under Article-2
5. Grant of Lease under Article-3
6. Proposed layout plan

The true copy of the documents attached herewith and marked as **ANNEXURE R/1 (Colly)**.

7. I state that the required documents filed by M/s Young Builders Private Limited before the office of answering department. That on receipt of documents the field official inspected the site on 03/02/2009 and submitted his report dated 04/02/2009. The true copy of the site inspection report along with list of affected trees are attached herewith and marked as **ANNEXURE R/2**.
8. I state that the permission for granting tree felling/transplant permission under the provisions of Delhi Preservation of Trees Act, 1994 that if the area involved is more than 1 Hectare in the larger public interest, the proposal after recommendation of the Secretary, Environment & Forest, Govt. of NCT of Delhi is forwarded to the Hon'ble Lt. Governor, Govt. NCT Delhi to solicit his approval in terms of powers conferred under Section 29 of the Delhi Preservation of Trees Act, 1994 to exempt the affected area under Section 9(3) of the Delhi Preservation of Trees Act, for granting permission to fell/transplant the

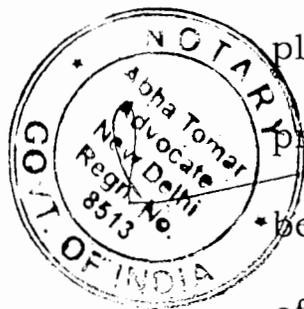


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trees proposed by the User Agency/project proponent/Applicant.

9. I further state that the notification in respect to the felling/transplantation of tree was published in Part IV of Delhi Gazette-Extra ordinary vide dated 25/05/2011 for development as residential area at 1 Cavalry Lane, 3 Cavalry Lane & 4 Chhatra Marg by M/s Young Builders Private Limited (Annexed as **Annexure - R/3**). Further, it is most respectfully stated that the permission for felling of 156 nos. of trees was granted to M/s Young Builder Private Limited vide letter No.F. 8(46)/COT/NFD/08-09/200-201 on 25/05/2011 under Section 9(3) of Delhi Preservation of Trees Act, 1994 with the direction to deposit a sum of Rs. 43,68,000 /- as security deposit with refundable/ non-refundable component of Rs. 14000/- per tree for ensuring compensatory plantation of 1560 saplings (ten times) against the felling of 156 trees.

10. However, it was further stated that compensatory plantation of 780 nos. of saplings shall be carried out by project proponent and the remaining 780 saplings were to be planted by the Department of Forest and Wildlife, Govt. of NCT of Delhi. The true copy of the letter dated 25/05/2011 attached herewith and marked as **ANNEXURE R/4**.



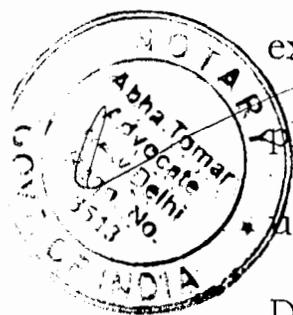
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11. I state that the Department of Forest & Wildlife, Govt. of NCT had already planted 780 saplings at I.T.O. Chungi Part (6) as per terms and conditions mentioned in notification. The true copy of the letter issued by Deputy Conservator of Forest in respect to the compensatory plantation vide dated 01/10/2012 attached herewith and marked as **ANNEXURE R/5.**

12. That it is pertinent to state here that the Department of Forests & Wildlife, Govt. of NCT of Delhi had sent letters dated 08/10/2012, 04/03/2013 and 15/10/2015 to the project proponent for submission of compliance report regarding compensatory plantation of 780 saplings by M/s Young Builders Private Limited but the same has not been submitted by the M/s Young Builders Private Limited. The true copy of the letters dated 08/10/2012, 04/03/2013 and 15/10/2015 attached herewith and marked as **ANNEXURE R/6 (Colly).**

13. I further state that the project proponent sought extension of time on various occasion for compensatory plantation explaining that they are unable to take up compensatory plantation as the building plans of the project are still under the process of approval by Municipal Corporation of Delhi. The true copy of the communications received from the project proponent attached herewith and marked as **ANNEXURE R/7.**



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However, it is submitted that the Department of Forest and Wildlife extended the period of 01 Year for compulsory plantation on the same ground. The true copy of the letter dated 06/01/2014 attached herewith and marked as **ANNEXURE R/8.**

14. I further state that the documents attached herewith are true copy of the respective original available at Department of Forest & Wildlife, Delhi.

Amit Kumar
DEPONENT
Dy. Conservator of Forests
North Forest Division
Govt. of NCT of Delhi
Kamla Nehru Ridge Delhi-67

VERIFICATION

I, the above- named, do hereby solemnly affirm and declared that the content of the present affidavit are true and correct to the best of my knowledge and nothing material has been concealed therefrom.

Verified at New Delhi on this ^{11 0 OCT 2018} 9th day of October 2018.

[Handwritten signature]
I hereby certify that the above statement is true and correct to the best of my knowledge and nothing material has been concealed therefrom.



Amit Kumar
DEPONENT
Dy. Conservator of Forests
North Forest Division
Govt. of NCT of Delhi
Kamla Nehru Ridge Delhi-67

Certified that the foregoing statement was read over to the deponent in his own affirmation before me and he has admitted it as correct.
[Signature]
Notary, DELHI

11 OCT 2018

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दिनांक

Annexure-I 31/10/05

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दिल्ली सं. डी. एल. 33004/99

प्रभात
राजपत्र दिनांक REGD. NO. D.L. 33004/99


भारत का राजपत्र

The Gazette of India

असाधारण
EXTRAORDINARYभाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITYP-0-300
Km-3:
Dept-50
CPB-21सं. 1017]
No. 1017]नई दिल्ली, शुक्रवार, सितम्बर 23, 2005/आश्विन 1, 1927
NEW DELHI, FRIDAY, SEPTEMBER 23, 2005/ASVINA 1, 1927

शहरी विकास मंत्रालय

(दिल्ली प्रभाग)

अधिसूचना

नई दिल्ली, 23 सितम्बर, 2005

का.आ. 1383(अ).—यतः यहां नीचे उल्लिखित क्षेत्र के बारे में दिल्ली मास्टर प्लान, 2001 में केन्द्र सरकार का जिन कुछ संशोधनों को करने का प्रस्ताव है उन्हें दिल्ली विकास प्राधिकरण द्वारा दिल्ली विकास अधिनियम, 1956 (1957 का 61) के खण्ड 44 के प्रावधानों के अनुसार दिनांक 9 नवम्बर, 2004 के सं. का.आ. 1254(अ), दिनांक 13 दिसम्बर, 2004 के सं. का.आ. 1363(अ) तथा 17 दिसम्बर, 2004 के सं. का.आ. 1388(अ) के तहत सार्वजनिक सूचना के रूप में भारत के राजपत्र में प्रकाशित किया गया था जिसमें उक्त अधिनियम के खण्ड 11-ए के उप-खण्ड (3) द्वारा यथा अर्पित उक्त नोटिस की तारीख के तीस दिन के भीतर आपत्तियां/सुझाव आमंत्रित किए गए थे।

2. यतः सार्वजनिक सूचना के उत्तर में प्रस्तावित संशोधन के बारे में कोई आपत्तियां/सुझाव प्राप्त नहीं हुए थे और यतः केन्द्र सरकार ने मामले के सभी पहलुओं पर ध्यानपूर्वक विचार करने के पश्चात् दिल्ली मास्टर प्लान, 2001 को संशोधित करने का निर्णय लिया है।

3. अतः अब उक्त अधिनियम के खण्ड 11-ए के उप-खण्ड (2) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए केन्द्र सरकार, भारत के राजपत्र में इस अधिसूचना के प्रकाशन की तारीख से उक्त दिल्ली मास्टर प्लान, 2001 में निम्नलिखित संशोधन करती है।

संशोधन

एम आर टी एस स्टेशनों की भूमि पर निम्नलिखित क्षेत्रों का भू-उपयोग संशोधित किया जाता है जिसका विवरण इस प्रकार है :—

(i) भू-उपयोग में परिवर्तन

| स्थान | क्षेत्रफल हेक्टेयर में | वर्तमान भू-उपयोग | संशोधित भू-उपयोग | सीमाएं |
|---------|---|------------------|------------------|---|
| 1 | 2 | 3 | 4 | 5 |
| त्रीनगर | जोन "एच" में 3.0 हेक्टेयर* मनोरंजनात्मक | | व्यावसायिक | उत्तर—मनोरंजनात्मक भू-उपयोग जोन पश्चिम—महाराज नाहर सिंह रोड दक्षिण—कालीदास रोड पूर्व—मनोरंजनात्मक भू-उपयोग जोन |

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Attested
[Signature]The Controller,
Dept. of Publication.

| 1 | 2 | 3 | 4 | 5 |
|---------------|----------------------------|---------------------------------------|------------|--|
| वजीरपुर | जोन "एच" में 2.84 हेक्टेयर | सार्वजनिक तथा अर्द्ध सार्वजनिक सुविधा | व्यावसायिक | उत्तर—डिस्ट्रिक्ट पार्क (एफसी 53 का पार्ट) पश्चिम—डिस्ट्रिक्ट पार्क (एफसी 53 का पार्ट) दक्षिण—जिला केन्द्र (मार्ग सं: 41) पूर्व—वजीरपुर जिला केन्द्र/रिंग रोड |
| विश्वविद्यालय | जोन "सी" में 3.05 हेक्टेयर | सार्वजनिक तथा अर्द्ध सार्वजनिक सुविधा | आवासीय | उत्तर—माल रोड पश्चिम—छत्र मार्ग दक्षिण—सार्वजनिक तथा अर्द्ध सार्वजनिक उपयोग जोन पूर्व—कैवलरी लेन |

0.3585 हेक्टेयर अनधिकृत भूमि को छोड़कर।

(ii) विकास नियंत्रण मानदण्ड :

त्रीनगर

- (i) ग्राउंड कवरेज — 25%
(ii) एफ ए आर — 100

वजीरपुर

- (i) ग्राउंड कवरेज — 25%
(ii) एफ ए आर — 100

[सं. के-13011/1/2002-डीडी 1बी]

एस. मुखर्जी, अवर सचिव

MINISTRY OF URBAN DEVELOPMENT

(Delhi Division)

NOTIFICATION

New Delhi, the 23rd September, 2005

S.O. 1383(E).—Whereas certain modifications which the Central Government proposed to make in the Master Plan for Delhi-2001 regarding the area mentioned hereunder were published in the Gazette of India, Extraordinary, as Public Notices *vide* No. S.O. 1254(E) dated 9th November, 2004, No. S.O. 1363(E), dated 13th December, 2004 and No. S.O. 1388(E) dated 17th December, 2004 by the Delhi Development Authority in accordance with the provisions of Section 44 of the Delhi Development Act, 1956 (61 of 1957) inviting objections/suggestions as required by Sub-section (3) of Section 11-A of the said Act, within thirty days respectively from the date of each of the said notices.

2. Whereas no objections/suggestions were received in respect of any of these proposed modifications and whereas the central Government have, after carefully considering all aspects of the matter, decided to modify the Master Plan for Delhi, 2001.

3. Now, therefore, in exercise of the powers conferred by Sub-section (2) of Section 11-A of the said Act, the Central Government hereby makes the following modifications in the said Master Plan for Delhi-2001 with effect from the date of Publication of this Notification in the Gazette of India.

Attested.

The Controller,
Deptt. of Publication.

Modification :

"The land use of the following areas on the land of MRTS Stations stand revised as per description listed below :—

(i) Change of Land Use

| Location | Area in hectare | Existing land use | Revised land use | Boundaries |
|-----------------|--------------------------|---------------------------------|------------------|---|
| 1 | 2 | 3 | 4 | 5 |
| Tri Nagar | 3.0 hectare* in Zone 'H' | Recreational | Commercial | North—Recreational land use zone West—Maharaja Nahar Singh Road South—Kalidass Road East—Recreational land use zone |
| Wazirpur | 2.84 ha in Zone 'H' | Public and Semi-Public Facility | Commercial | North—District Park (part of FC 53) West—District Park (part of FC 53) South—District Centre (Road No. 41) East—Wazirpur District Centre/Ring Road |
| Viswa-vidyalaya | 3.05 ha in Zone 'C' | Public and Semi-Public Facility | Residential | North—Mall Road West—Chattra Marg South—Public and Semi-Public use zone East—Cavalary Lane |

*excluding the unacquired land portion measuring 0.3585 ha.

(ii) Development Control Norms :

Tri Nagar

- (i) Ground coverage — 25%
(ii) FAR — 100

Wazirpur

- (i) Ground coverage — 25%
(ii) FAR — 100

[No. K-13011/1/2002-DDIB]

S. MUKHERJEE, Under Secy.

Attested

[Signature]

The Controller,
Deptt. of Publication,
Civil Lines, Delhi-110054

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DELHI DEVELOPMENT AUTHORITY
AREA PLANNING UNIT II
4TH FLOOR, VIKAS MINAR, N.D.

NO: F20(2)/2000/MP/Pt./ D-35
IV

Date: 12-2-07

To

✓
The Chief Urban Planner,
DMRC, NBCC Place,
Bhishma Pitamah Marg,
Pragati Vihar,
NEW DELHI-110003.

Sub: Property Development at Vishwa Vidyalaya
MRTS Station.

Ref: DMRC/PD/06/TEND/VV-RES/N290906, dt. 29.9.06. ~~2006~~

Sir,

With reference to above you have requested to provide clarifications on the development parameters and norms that would be applicable on the site. The matter has been examined and it is informed that the land use of the pocket measuring 3.05 Ha. has been changed from 'public semi public facilities' to 'residential' vide Gazettee Notification dated 5.10.05. Master Plan for Delhi and zonal development plan for zone 'C' provide detail guidelines for development of land earmarked for residential use. You may follow the norms prescribed in Master Plan for Delhi.

Yours faithfully,

h.hud
312102
(K.K. MARWAH)
DY. DIRECTOR(A.P)II

Copy to:

OSD(Land) with a request to examine in relation to the allotment of land by DDA.

*Original copy issued
to AM/C dt 9/1/07*

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Delhi Metro Rail Corporation Ltd.
-RFP DOCUMENT-

TENDER NOTICE

DELHI METRO RAIL PROJECT

DMRC Ltd. Invites reputed agencies for High class Residential Development at Vishwavidyalaya, Delhi.

A 3.05ha plot at Vishwavidyalaya Metro Station, Mall Road, New Delhi is available with DMRC. Land use is 'residential'. DMRC proposes private sector participation in developing a high-class residential development here, by transferring lease hold rights in favour of the developer for a period of 90 years.

An open auction in this regard will be held on 24.07.2008 at 1000AM on 5th Floor Meeting Room, DMRC, NBCC Place, Bishmah Pitamah Marg, New Delhi-3

Approved and eligible bidders who have deposited an Auction Hall Deposit(AHD) of Rs. 5 (five) crore in favour of DMRC will be allowed entry into auction hall. The highest bidder shall have to deposit 25% of the bid offered (including Rs. 5 crore AHD) as Earnest Money Deposit (EMD) by 25.07.2008, 1600 hrs.

Details of the offer/RFP can be seen/downloaded from website www.delhimetrorail.com or obtained from Chief Engineer/PD/DMRC (Phone No. 24365205, Mobile No. 9959793335 - Amit). Cost Rs. 10400/- Non-refundable. 9958793335

Pre-bid meeting proposed on 09.07.2008



DELHI METRO RAIL CORPORATION LTD.

(A Joint Venture of Govt. of India & Govt. of NCT of Delhi)
www.delhimetrorail.com

PUBLISHED IN TIMES OF INDIA, ECONOMIC TIMES & NAUBHARI

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GOVT. OF N.C.T. OF DELHI

~~OFFICE OF THE TREE OFFICER~~FORM 'B'
(SUB RULE (1) OF RULE 4)

To,

The Tree Officer,
Kamla Nehru Ridge,
Delhi

Sir,

I apply for grant of permission for felling trees located in the property situated at ;
1, 3 Cavalary Lane and 4 Chhatra Marg, Mall Road, Civil Lines, Delhi. I furnish below
the following details in support of my application:

| | |
|--|---|
| 1. Applicant's name & address (in Block letters) | YOUNG BUILDERS PRIVATE LTD 43, BABAR ROAD, BENGALI MARKET NEW DELHI-110 001 |
| 2. Name & address of the owner of the property (if different from applicant) | Same as above. |
| 3. Title of the applicant i.e. whether owner/occupant of the property etc. | Lessee and Occupant |
| 4. Name and address of the property | 1, 3 Cavalary Lane and 4 Chhatra Marg , Mall Road , Civil Lines, Delhi. (Adjoining Vishwa Vidyalaya Metro Station) |
| 5. Total area of the property with description of the boundaries | 2 HA =20,000Sq Mtrs bounded as : North - Metro Station East - Cavalary Lane West - Chhatra Marg South - Others properties |
| 6. Total no. of trees (species-wise) whose trunk or body is not less than 5 cm in dia at a ht. of 30 cm from the ground & whose ht. is not less than 01 mtr. From the ground. | 156 - List attached. |
| 7. The exact area (in Sq mtrs) from which felling of trees for which permission sought (description of the boundaries). | Same as at S.No 5 |
| 8. Total no. of trees to be felled | 156 |
| 9. Trees to be felled are numerically numbered in paints, their girth measured at a ht. of 1.35 mtrs. from ground level & their details species are: | As per list attached. |
| 10. Purpose for which the felling of the trees are intended. | Digging basements for parking/services for Group Housing - Residential |
| 11. Intended use of felled trees (e.g.) for sale for domestic use etc. | As per your direction. |
| 12. Intended use of land after felling of | Development of Group Housing - |

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| trees | Residential |
|---|--|
| 13. No. of species of trees intended to be planted after felling (give details of arrangement for raising, planting & protecting trees) | Trees will be planted at places: 1. Subject site after development of residential complex 2. 1/10 Shanti Niketan, New Delhi 3. Khasra Nos.23/3, 23/4, 23/7, 23/8, 23/9 measuring 1 Acre each (total area 5 acre) at Village Singhola. (Land owned by directors/family members) |
| 14. Name/s & address/es of the owners/occupants of adjoining properties | DMRC |

I am enclosing an affidavit & below mentioned papers in support of my application.

Yours truly,
For Young Builders Pvt Ltd


Director

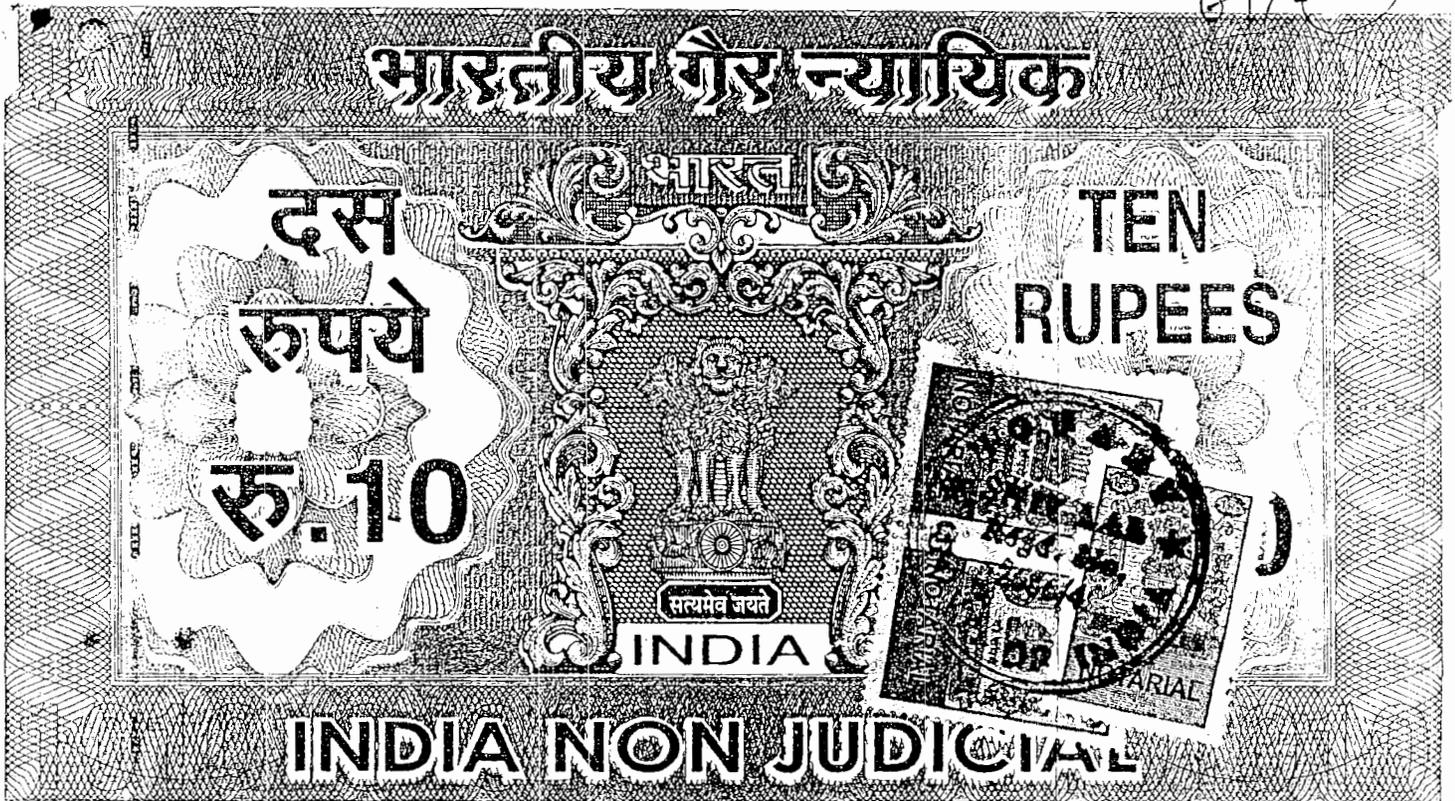
Place: New Delhi

Date

Attested copies of:

1. Lease agreement with Delhi Metro Rail Corporation Ltd.
2. Plan of the property with endorsement of handing over of possession
3. Enumeration List
4. Species-wise list
5. No Objection Certificate from DMRC
6. Affidavit duly notarized

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दिल्ली DELHI

AFFIDAVIT

25AA 123050

I, Satish Bansal, the authorized director of Young Builders Private Limited aged 51 years resident of 1/10 Shanti Nektan, New Delhi - 110 021 s/o Sh Puranmal Bansal, do hereby solemnly affirm and declare as under:

1. That Young Builders Private Limited is the legal owner/occupant/lessee of the private property situated at 1,3 Cavalary Lane & 4 Chhatra Marg, Mall Road, Civil Lines, Delhi (Adjoining Vishwa Vidyalaya Metro Station), boundaries of which are as follows:

- East - Cavalary Lane
- West - Chhatra Marg
- North - Mall Road
- South - Green Land & other properties

2. That I have applied to the Tree Officer, Kamla Nehru Ridge, Delhi for permission to fell 156 trees from the abovesaid property. All the trees have been numbered with paint.

3. That there is no other owner/occupant of this property or the forest produce on this property and I hereby solemnly affirm and declare that I shall be solely responsible and answerable for any claim and litigation, if any, that may arise at any time in future regarding the ownership/occupancy of the said property or the forest produce on the said property.

DEPONENT

Verification:

I hereby solemnly declare and affirm that to the best of my knowledge and belief the contents of my above affidavit are correct and true and that no material has been concealed or omitted there from.

Verified at _____ this _____ day of January 2009.



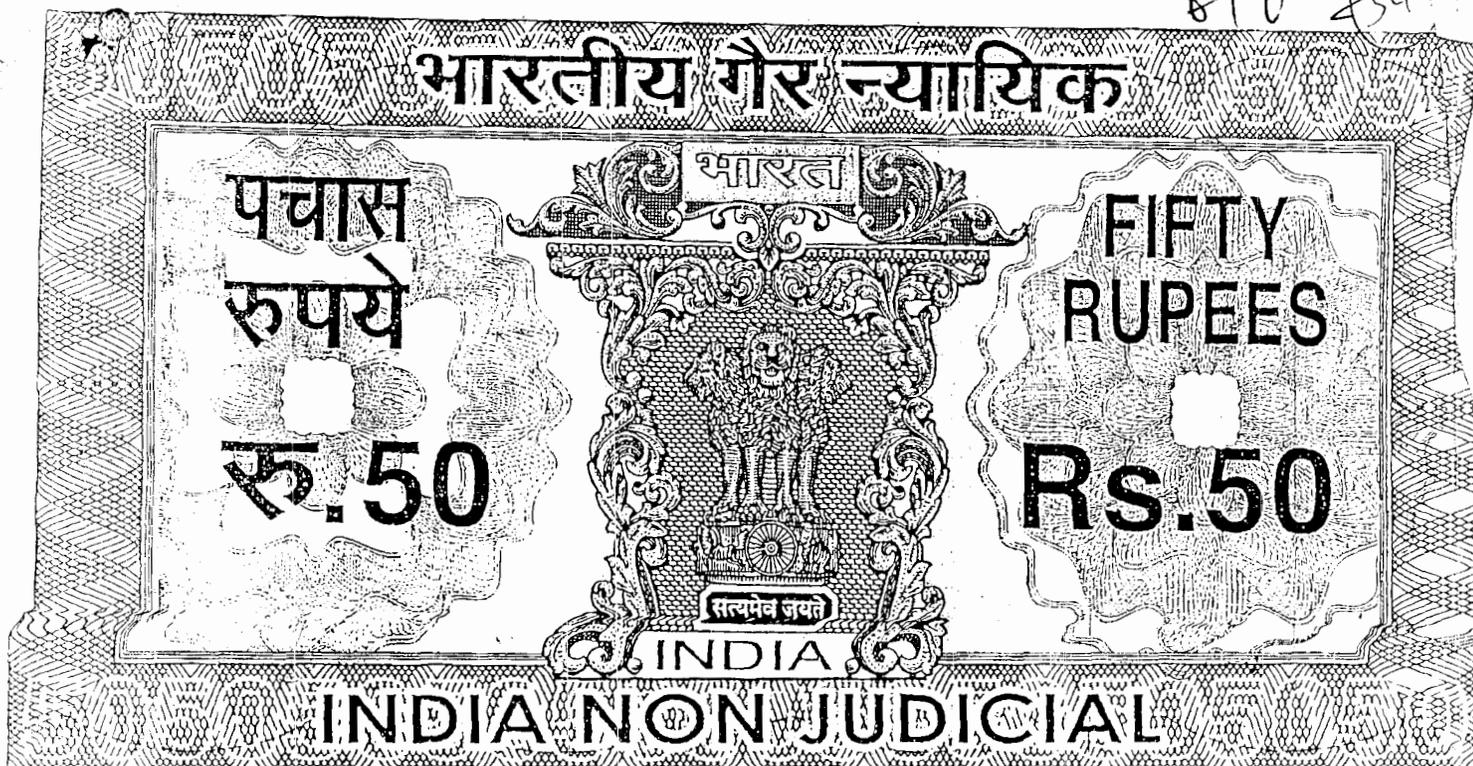
ATTESTED

Notary Public, Delhi

28 JAN 2009

DEPONENT

Old Court Compound
Parliament St. New Delhi-1



दिल्ली DELHI

N 559044

LEASE AGREEMENT

This Agreement ('Agreement') is made and executed at New Delhi on this 15th December, 2008

BY AND BETWEEN

Delhi Metro Rail Corporation Limited, a company incorporated under the Companies Act, 1956, having its registered office at 3rd Floor, NBCC Place Bhisma Pitamah Marg, Pragati Vihar, New Delhi 110003, India hereinafter referred to as '**DMRC**', (which expression shall, unless it be repugnant to the subject or context thereof, include its successors and permitted assigns) of the **ONE PART**;

AND

M/s Young Builders Pvt Ltd, a company incorporated under the provisions of the Companies Act, 1956, having its registered office at 10-A Scindia House, Connaught Circus, New Delhi (hereinafter referred to as the "developer" which expression shall unless repugnant to the context include the successors and permitted assigns) of the **Other Part**.

(DMRC and the Developer are hereinafter also individually referred to as a '**Party**' and collectively as '**Parties**').

S. JETHWANI
Chief Engineer/Property Development
Delhi Metro Rail Corpn. Ltd.
NBC Place Pragti Vihar
New Delhi-110003

For Young Builders (P) Ltd.

Authorized Signatory



दिल्ली DELHI
WHEREAS:

N 559042

A. DMRC has been established with the principal object of planning, designing, developing, constructing, maintaining, operating and financing Mass Transit and other urban transport and people mover system of all types and descriptions in the National Capital Territory of Delhi and other areas of the National Capital region (hereinafter called the 'territory');

B. The Delhi Metro Railway (Operation and Maintenance) Act, 2002 has been enacted by the Parliament to provide for the operation and maintenance, and to regulate the metro railway in the metropolitan city of Delhi and for matters connected therewith and incidental thereto;

C. DMRC has been authorised to develop real estates in and around the Metro Stations and other places in the territory and generate revenues there from, for the purpose of part funding its capital expenditure and to supplement the fare box collection;

D. In pursuance of the above, DMRC is desirous of raising funds for Phase - I of Delhi Mass Rapid Transit System by transfer of its rights of the allotted land to a developer for the purpose of residential development of the same. For this purpose DMRC has identified land admeasuring about 2.0 ha near Vishwavidyalaya Metro Station, as more specifically described in Annexure A hereto and in the plan set out in Annexure B hereto ('Project Land');

S. JETHWANI
Chief Engineer/Property Development
Delhi Metro Rail Corpn. Ltd.
NBC Place Pragli Vihar
New Delhi-110003

For Young Builders (P) Ltd.

Authorised Signatory

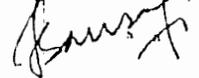
- E. DMRC invited open bids for the Project through advertisement published in newspapers dated 22/06/08 and auction held on 28th July , 2008. After approval of competent authority, DMRC has accepted the bid of the developer herein and has issued them a Letter of Acceptance ('LOA') bearing No. **DMRC/PD/LINE2/VV/215** dated **13th August , 2008** requiring inter alia, the execution of this lease Agreement within 120 days thereof after the satisfaction of all conditions precedent specified in the Bid and the acceptance of LOA dated *August 18th , 2008*.
- F. The developer represents and warrants that it/they have duly fulfilled all the terms and conditions necessary for the execution of this agreement as per the terms contained in the bidding documents and are in a position to execute this agreement and implement the project as envisaged in the bid and this agreement;
- G. Pursuant to acceptance of the developer's bid, the parties wish to enter into an agreement setting out the terms of development and transfer of the Project Land;

NOW THEREFORE THIS AGREEMENT WITNESSETH AND IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:



S. JETHWANI
Chief Engineer/Property Development
Delhi Metro Rail Corpn. Ltd.
NBC Place Pragti Vihar
New Delhi-110003

For Young Builders (P) Ltd.



Authorised Signatory

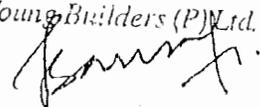
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Article 2
2.0 LEASE TRANSFER

- 2.1 Upon payment of the entire Transfer Price by the Developer to DMRC, the DMRC hereby agrees to lease the Project Land and the air space above it to the Developer for a period of 90 years for development and construction of a Residential complex. The Developer hereby also agrees that it is acquiring the leasehold rights on the Project Land to develop the Residential Complex only as specified under this Agreement.
- 2.2 The Developer may herein after peacefully and quietly enter upon, occupy or possess the Project Land as subject to the prior approval of the DMRC may transfer or alienate the same or any part thereof by way of sub-lease, mortgage, collaboration to third parties for the purposes of development of the Residential Complex and sale of the spaces thereof.
- 2.3 The developer shall be responsible/liable for payment of all taxes inclusive of service tax, cess, duties including stamp duties that may be applicable/levied on the project land by local authorities/government after the execution of this Agreement.
- 2.4 A token money of Rs. 1 per annum i.e. annual lease rent for the Project Land would be charged from the developer from the date of signing of the Agreement.



S. JETHWANI
Chief Engineer/Property Development
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For Young Builders (P) Ltd.

Authorized Signatory

Article 3

3.0 GRANT OF LEASE

- 3.1 Subject to the terms and conditions set forth in this Agreement, DMRC also grants and authorizes the Developer to develop, design, construct, complete, manage, operate and maintain the Project ('Lease'). The Lease entitles the Developer on his cost and risks to the following benefits, privileges, authorizations and entitlements, to be exercised in accordance with applicable laws:
- (i) To develop, design, engineer, finance, procure, construct, operate and maintain the Project, including the Residential Units, the paved access-ways, landscaped green areas, utilities and services, telecommunication infrastructure, etc. in conformity with the Layout Plan (as approved by DMRC in accordance with Article 5.1);
 - (ii) To market the Residential Units to Residential Users and enter into agreements for transfer of leasehold rights of the Residential Units with them, it is clarified that the Developer shall be entitled to enter only into 'agreements to transfer the leasehold rights with the Residential Users in respect of the Residential Unit in accordance with the terms of this Agreement'. The Developer shall execute the 'agreement to transfer the leasehold rights' with the End Users in a format approved by DMRC and shall submit with DMRC a copy of each agreement executed with any End Users.
 - (iii) Subject to prior consent of DMRC, raise finances for the Project by creating mortgage on the Project Land and issue NOC to Residential users for mortgage of the Residential Units for facilitating housing loans of the Residential Users. To ensure compliance with this requirement, the Developer shall submit to DMRC a copy of all financing and security documents executed by the Developer with lenders for raising funds for the Project.
 - (iv) a) The developer shall confine its operations to the Project Site. The developer shall take all necessary precautions to keep persons and equipment within such areas, and to keep and prohibit them from encroaching, damaging or degrading or affecting adversely the surrounding DMRC area and property, or otherwise cause any interference to the passengers, visitors, employees, representatives and agents of the DMRC.

b) If any infringement as defined under this clause occurs, as determined by DMRC, DMRC will issue a notice to rectify the infringement within a stipulated time. If the infringement is not rectified within the stipulated time, a fine upto Rs. 1.0 lakh (Rs. One lakh only) will be imposed by DMRC, along with the additional time for rectification of such infringement.



S. JETHWANI

Chief Engineer/Property Development
Delhi Metro Rail Corpn. Ltd.
NBC Place Pragti Vihar
New Delhi-110003

For Young Builders (P) Ltd.



Authorized Signatory

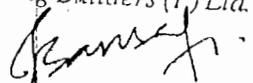
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3.2 Nothing contained herein including the grant of Lease, shall be construed as a sale or transfer or assignment of right, title and interest of the DMRC in the Project Land in favour of the Developer.



S. JETHWANI
Chief Engineer/Property Development
Delhi Metro Rail Corpn. Ltd.
NBC Place Pragti Vihar
New Delhi-110003

For Young Builders (P) Ltd.


Authorised Signatory

invalid, the Parties agree to substitute for such invalid provision a new provision that serves the purpose of the invalid provision to the furthest possible extent.

10.7 The Developer shall be responsible for payment of all stamp duty and any similar taxes in respect of this Agreement or any instrument required to be executed pursuant to this Agreement.

IN WITNESS WHEREOF the Parties hereto have caused this Agreement to be executed in Four (4) counterparts by their duly authorized representatives as of the date and year first above written.

For and on behalf of Delhi Metro Rail Corporation Limited

S. JETHWANI

Chief Engineer, Security Development
Delhi Metro Rail Corp. Ltd.

[NBO Prasad Kumar Vijar
New Delhi 110019]

Authorised Signatory

Witness:

1. [S. JETHWANI]

2. _____

For and on behalf of Young Builders Pvt Ltd

For Young Builders (P) Ltd

[Authorised Signatory]

Authorised Signatory

Witness:

1. [Witness Signature]

2. _____

[Handwritten Signature]

Annexure - II

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To,

The Dy Conservator of Forest (N)
Kamla Nehru Ridge, Delhi-110007

Sir,
I received letter No. 803/DCF (N) /29.01.09, I have inspected on 03/02/09, 1, 3, Cavalary Lane 84, Chhatramarg, Mall Road, civil lines Delhi, land area 2, Hectare. D.M.R.C has leased this land to 'Young Builders Private Ltd. 43, Babar Road, Bengali Market, New Delhi-110001.

Sh. Satish Bansal, Director of this company has applied for felling permission 156, nos. of trees existed in the 2 Hectare land area for digging Basement for parking services for Group Housing Complex. Residential

According to the produced list of 156, nos. trees all the trees are creating hindrance in digging Basement for parking services for Group Housing Residential which have need felling/Transplanting as under.

S.No. 24, 27, 28, 30, 48, 66, 69, 92, 96, 101, 102, 103, 104, 105, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 147, 149, 150, have need Transplanting which are in total = 55
Else of these 101, trees have need felling

Applicant has submitted following documents.

- (1) C.B. Form (2) Affidavit (3) Lease agreement (4) Site Plan (5) List of trees (6) N.O.C from D.M.R.C (7) C.A Plan/Bond

- (1) Applicant has mentioned and is ready to do compensatory Afforestation in against felling/Transplanting permission for 156, nos. of trees at his agricultural land in village Simhala Delhi Khasra nos. 23/3, 23/4, 23/7, 23/8, 23/9, measuring area total 5, Acre. (2) 1/10, Shanti Niketan, New Delhi. (3) C.A will be done at the construction site after development of residential complex.

Report is submitted for n.a PC.

Ramk. Jadhava
04.02.09

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List of Trees at Vishwavidyaya Metro Station

| S.No. | Tree No. | Species | Girth (cm) |
|-------|----------|-------------|------------|
| 1 | 1 | Neem | 230 |
| 2 | 2 | Kabli Kikar | 145 |
| 3 | 3 | Kabli Kikar | 95 |
| 4 | 4 | Kabli Kikar | 135 |
| 5 | 5 | Kabli Kikar | 80 |
| 6 | 6 | Kabli Kikar | 90 |
| 7 | 7 | Subabul | 85 |
| 8 | 8 | Subabul | 60 |
| 9 | 9 | Sagwan | 18 |
| 10 | 10 | Subabul | 28 |
| 11 | 11 | Subabul | 28 |
| 12 | 12 | Subabul | 38 |
| 13 | 13 | Kabli Kikar | 50 |
| 14 | 14 | Subabul | 40 |
| 15 | 15 | Subabul | 62 |
| 16 | 16 | Jamun | 140 |
| 17 | 17 | Dry | 250 |
| 18 | 18 | Champa | 70 |
| 19 | 19 | Mango | 130 |
| 20 | 20 | Neem | 230 |
| 21 | 21 | Neem | 145 |
| 22 | 22 | Neem | 250 |
| 23 | 23 | Neem | 190 |
| 24 | 24 | Gooler | 30 |
| 25 | 25 | Palm | 53 |
| 26 | 26 | Palm | 55 |
| 27 | 27 | Pilkhan | 60 |
| 28 | 28 | Pilkhan | 20 |
| 29 | 29 | Neem | 320 |
| 30 | 30 | Pipal | 60 |
| 31 | 31 | Mango | 180 |
| 32 | 32 | Champa | 45 |
| 33 | 33 | Bel | 80 |
| 34 | 34 | Mango | 200 |
| 35 | 35 | Shahtoot | 72 |
| 36 | 36 | Champa | 45 |
| 37 | 37 | Shahtoot | 160 |
| 38 | 38 | Neem | 240 |
| 39 | 39 | Neem | 150 |
| 40 | 40 | Mango | 110 |
| 41 | 41 | Neem | 250 |
| 42 | 42 | Semul | 55 |
| 43 | 43 | Jamun | 170 |
| 44 | 44 | Mango | 200 |
| 45 | 45 | Mango | 95 |
| 46 | 46 | Neem | 400 |
| 47 | 47 | Mango | 180 |
| 48 | 48 | Pipal | 30 |
| 49 | 49 | Palm | 120 |
| 50 | 50 | Palm | 52 |

Ranik Kishor

08/02/09

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| | | | |
|-----|-----|-------------|-----|
| 51 | 51 | Semul | 125 |
| 52 | 52 | Neem | 180 |
| 53 | 53 | Dry | 150 |
| 54 | 54 | Jamun | 80 |
| 55 | 55 | Pipal | 480 |
| 56 | 56 | Mango | 110 |
| 57 | 57 | Dry/Neem | 160 |
| 58 | 58 | Neem | 160 |
| 59 | 59 | Neem | 200 |
| 60 | 60 | Neem | 120 |
| 61 | 61 | Neem | 210 |
| 62 | 62 | Kabli Kikar | 50 |
| 63 | 63 | Subabul | 30 |
| 64 | 64 | Neem | 165 |
| 65 | 65 | Dry | 280 |
| 66 | 66 | Pipal | 30 |
| 67 | 67 | Subabul | 20 |
| 68 | 68 | Subabul | 20 |
| 69 | 69 | Pipal | 20 |
| 70 | 70 | Subabul | 20 |
| 71 | 71 | Semul | 100 |
| 72 | 72 | Subabul | 22 |
| 73 | 73 | Subabul | 20 |
| 74 | 74 | Subabul | 30 |
| 75 | 75 | Kabli Kikar | 105 |
| 76 | 76 | Kabli Kikar | 95 |
| 77 | 77 | Subabul | 20 |
| 78 | 78 | Neem | 155 |
| 79 | 79 | Pipal | 440 |
| 80 | 80 | Pipal | 130 |
| 81 | 81 | Dry | 130 |
| 82 | 82 | Pitonjiva | 45 |
| 83 | 83 | Pipal | 155 |
| 84 | 84 | Subabul | 30 |
| 85 | 85 | Subabul | 30 |
| 86 | 86 | Moulsari | 125 |
| 87 | 87 | Gooler | 300 |
| 88 | 88 | Pipal | 480 |
| 89 | 89 | Dry | 80 |
| 90 | 90 | Neem | 175 |
| 91 | 91 | Tuin | 150 |
| 92 | 92 | Hakranda | 30 |
| 93 | 93 | Neem | 300 |
| 94 | 94 | Neem | 240 |
| 95 | 95 | Mango | 300 |
| 96 | 96 | Gooler | 25 |
| 97 | 97 | Champa | 100 |
| 98 | 98 | Champa | 100 |
| 99 | 99 | Champa | 100 |
| 100 | 100 | Neem | 265 |
| 101 | 101 | Lajastonia | 20 |
| 102 | 102 | Lajastonia | 20 |
| 103 | 103 | Tikoma | 20 |

Ramk Jhijya
03/02/09

[Signature]

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| | | | |
|-----|-----|-------------|-----|
| 104 | 104 | Tikoma | 18 |
| 105 | 105 | Lajastonia | 22 |
| 106 | 106 | Tikoma | 20 |
| 107 | 107 | Tikoma | 18 |
| 108 | 108 | Lajastonia | 18 |
| 109 | 109 | Tikoma | 17 |
| 110 | 110 | Lajastonia | 20 |
| 111 | 111 | Lajastonia | 20 |
| 112 | 112 | Lajastonia | 18 |
| 113 | 113 | Lajastonia | 18 |
| 114 | 114 | Lajastonia | 20 |
| 115 | 115 | Lajastonia | 18 |
| 116 | 116 | Lajastonia | 20 |
| 117 | 117 | Lajastonia | 18 |
| 118 | 118 | Lajastonia | 18 |
| 119 | 119 | Lajastonia | 20 |
| 120 | 120 | Gulmohar | 28 |
| 121 | 121 | Gulmohar | 20 |
| 122 | 122 | Ficus | 20 |
| 123 | 123 | Ficus | 18 |
| 124 | 124 | Ficus | 22 |
| 125 | 125 | Ficus | 22 |
| 126 | 126 | Ficus | 22 |
| 127 | 127 | Ficus | 18 |
| 128 | 128 | Ficus | 18 |
| 129 | 129 | Ficus | 28 |
| 130 | 130 | Ficus | 35 |
| 131 | 131 | Ficus | 26 |
| 132 | 132 | Ficus | 35 |
| 133 | 133 | Ficus | 40 |
| 134 | 134 | Ficus | 25 |
| 135 | 135 | Ficus | 20 |
| 136 | 136 | Ficus | 20 |
| 137 | 137 | Ficus | 20 |
| 138 | 138 | Ficus | 20 |
| 139 | 139 | Ficus | 20 |
| 140 | 140 | Ficus | 25 |
| 141 | 141 | Ficus | 20 |
| 142 | 142 | Semul | 36 |
| 143 | 143 | Ficus | 18 |
| 144 | 144 | Gulmohar | 20 |
| 145 | 145 | Pipal/Dry | 190 |
| 146 | 146 | Kaner | 90 |
| 147 | 147 | Kaner | 27 |
| 148 | 148 | Kaner | 75 |
| 149 | 149 | Kaner | 22 |
| 150 | 150 | Kaner | 33 |
| 151 | 151 | Neem | 90 |
| 152 | 152 | Kabli Kikar | 75 |
| 153 | 153 | Dry | 220 |
| 154 | 154 | Neem | 125 |
| 155 | 155 | Kabli Kikar | 90 |
| 156 | 156 | Kabli Kikar | 100 |

Ramk Jashiepp 
08/02/09

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Specieswise list of Trees at Vishwavidyalaya Metro Station

| S. No. | Species | No. of Trees |
|--------|-------------|--------------|
| 1 | Bel | 1 |
| 2 | Champa | 6 |
| 3 | Dry | 6 |
| 4 | Ficus | 21 |
| 5 | Gooler | 3 |
| 6 | Gulmohar | 3 |
| 7 | Hakranda | 1 |
| 8 | Jamun | 3 |
| 9 | Kabli Kikar | 12 |
| 10 | Kaner | 5 |
| 11 | Lajastonia | 14 |
| 12 | Mango | 9 |
| 13 | Moulsari | 1 |
| 14 | Neem | 24 |
| 15 | Palm | 4 |
| 16 | Pilkhan | 2 |
| 17 | Pipal | 10 |
| 18 | Pitonjiva | 1 |
| 19 | Sagwan | 1 |
| 20 | Semul | 4 |
| 21 | Shahtoot | 2 |
| 22 | Subabul | 17 |
| 23 | Tikoma | 5 |
| 24 | Tuin | 1 |
| | | 156 |

K. J. Shrivastava

A. S. Chandra

3/02/09

Annexure-III

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[TO BE PUBLISHED IN PART IV OF THE DELHI GAZETTE - EXTRAORDINARY]

GOVERNMENT OF NATIONAL CAPITAL TERRITORY OF DELHI
DEPARTMENT OF ENVIRONMENT, FOREST & WILDLIFE
6th - LEVEL, C-WING, DELHI SECRETARIAT, I.P. ESTATE, NEW DELHI-02



No. 8(46) COT/NFD/08-09/ 194-199

Dated: 25/5/11

NOTIFICATION

Whereas, the Government of National Capital Territory of Delhi considers it necessary to do so in the public interest.

Now, therefore, in exercise of the powers conferred by Section 29 of the Delhi Preservation of Trees Act, 1994, the Government of National Capital Territory of Delhi hereby exempts an area of 2 Ha for development as residential area at 1, 3 Cavalary Lane & 4, Chhatra Marg, Mall Road, Civil Lines, Delhi - 110054 by M/s Young Builders Pvt., 43, Babar Road, Bengali Market, New Delhi - 110001 from the provisions of sub-section (3) of section 9 of the said Act, involving removal of 156 nos. of trees i.e. 55 trees to be transplanted and 101 to be felled subject to the plantation of 1560 nos. of sapling with the following conditions that;

1. The User Agency shall deposit the security amount @ of Rs. 28000/- per tree for ensuring Compensatory Plantation of 1560 trees with the D.C.F. (North) in the Department of Forests and Wildlife, Government of NCT of Delhi, in accordance with the Rules made under the Delhi Preservation of Trees Act, 1994 of which an amount @ Rs. 14000/- per tree shall be released after 5 years on successful establishment & plantation of 780 trees upon joint physical verification.
2. The User Agency shall undertake compensatory plantation of 780 no. of saplings; out of which 156 saplings of 2m height or more of species Kachnar and Amaltas and 624 tree saplings of same height of Neem, Pipal, Pilkhan, Maulsary, Gular, Arjun, Jamun, Shisham, Sirus and Babool shall be planted at the Project area with in nine months from the date of issue of permission of removal of trees by the Tree officer.
3. Remaining 780 tree saplings of same species and specifications shall be planted by Department of Forests and Wildlife, Government of NCT of Delhi by utilizing half of the amount deposited as security deposit against removal of 156 trees.
4. The User Agency shall hand over the wood arising out of felling of trees to the officials of MCD for its use in public crematoria in the National Capital Territory of Delhi.

By order and in the name of the Lt. Governor
of National Capital Territory of Delhi

(KESHAV CHANDRA)

Secretary (Environment & Forests)

OK

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Annexure-IV

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No. F. 8(46)/COT/NFD/08-09/ 200-201

GOVT. OF NCT OF DELHI

DEPARTMENT OF FOREST AND WILD LIFE
OFFICE OF THE DEPUTY CONSERVATOR OF FOREST
NORTH FOREST DIVISION, KAMLA NEHRU RIDGE,
DELHI-110007, (Ph.:- 011 - 23853561)

Dated: 25th May' 2011

To

M/s Young Builder Pvt. Ltd.,
43, Babar Road, Begali Market,
New Delhi - 110001

Sub: Permission for removal/transplant of 156 nos. of trees (101 nos. of trees felling & 55 nos. of trees transplanting) standing at 1, 3 Cavalry Lane & 4, Chhatra Marg, mall Road, Civil Lines, Near Vishwavidyalaya Metro Station, Delhi - 110007 - reg.

Ref: 1. Your letter no. Nil, dated 03/03/2011 received in this office on 15/03/2011.
2. This office letter no. F. 8(46)/COT/NFD/08-09/96-97, dated 03/05/2011.
3. Your letter vide no. Nil, dated 24/05/2011 received on 24/05/2011 along-with Cheque No. 406017, dated 23/05/2011 from Indusland Bank, Barakhamba Road, New Delhi - 01.
4. Govt. of NCT of Delhi Notification no. 8(46)/COT/NFD/08-09/194-99, dated 25/05/2011.

Kindly refer to the letter under reference for removal/transplant of 156 nos. of trees (101 nos. of trees felling & 55 nos. of trees transplanting) standing at 1, 3 Cavalry Lane & 4, Chhatra Marg, mall Road, Civil Lines, Near Vishwavidyalaya Metro Station, Delhi - 110007. Permission for felling/transplant of above mentioned trees as per the enclosed authenticated list of the said trees is granted subject to the following:-

Conditions:-

1. In lieu of the 156 nos. of trees the applicant shall plant 1560 nos. saplings of 5- 6 ft height and of local/indigenous tree species, like Amaltas, Kusum, Neem, Kachnar, Peepal, Jamun, Pilkhan and Shehtot etc. close to the site of existing tree within 9 months time and subsequently maintain the same for 3 years in accordance with Delhi Preservation of Tree Act' 1994.
2. Permission to remove/transplant the aforesaid trees is granted at your own risk and any other statutory requirement must be completed prior to the removal of the trees.
3. Felling/transplanting of above mentioned trees is done under the supervision of experienced horticulturist.
4. Felling/transplanting of the said 156 nos. trees shall be completed within 60 days time from the date of the permission.
5. Out of 156 nos. of trees, 55 nos. of trees shall be transplanted to Garhi Mandu City Forest Nursery.
6. Applicant shall be fully responsible for this matter after the felling of the aforesaid trees and for any dispute and judicial implication in the court.
7. The sum of Rs. 43,68,000/- vide Bankers Cheque no. 406017, dated 23/05/2011 from Indusland Bank, Barakhamba Road, New Delhi - 110001 deposited as Security Deposit with refundable/nonrefundable component of Rs. 14,000/- per tree for ensuring compensatory plantation by the applicant viz a viz the Forest Department shall be refunded only after confirmation of the creation of the complete plantation and subsequently on successful maintenance of the raised seedlings properly for three years and its verification. In case of failure to create the plantation or failure to confirm this office about the creation of 1560 nos. of plantation on or before 9 months time of the issue of this letter or failure to maintain

o/c

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Form 'E'
(See Rule 6 of DPTA 1994)
GOVT. OF NCT OF DELHI
DEPARTMENT OF FOREST AND WILD LIFE
OFFICE OF THE DEPUTY CONSERVATOR OF FOREST
NORTH FOREST DIVISION, KAMLA NEHRU RIDGE,
DELHI-110007, (Ph.:- 011 - 23853561)

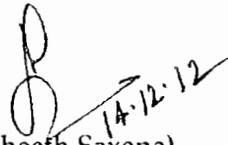
No. F. 8 (46)/COT/NFD/2008-09/1155-57

Dated: 17-12-12

Sub: Permission for removal/transplant of 156 nos. of trees (101 nos. of trees felling & 55 nos. of transplanting) standing at 1, 3 Cavalry Lane & 4, Chhatra Marg, Mall road, Civil Line, near Viswavidyalaya Metro Station, Delhi - reg.

- Ref: 1) Your letter no. Nil, dt. 03/3/11 received on 15/03/11.
2.) This office permission order No. F. 8 (46)/COT/NFD/08-09/96-97, dt. 03/05/2011.
3.) Your letter vide no. Nil, dated 24/05/2011 received on 24/05/2011 along with cheque no. 406017, dated 23/05/2011 from Indusland Bank, Barakhamba Road, New Delhi.
4) Govt. of NCT of Delhi Notification no. 8(46)/COT/NFD/08-09/194-99, Dated 25/05/2011.
5) This office letter vide No. F. 8(46)/COT/NFD/08-09/200-201, dt. 25/05/11.

With reference to application of Young Builders received on dated 29/01/2009 for grant of permission for felling/transplant of 156 no. of trees, is hereby informed that permission granted earlier for felling/transplant of 156 no. trees standing at 1, 3 Cavalry Lane & 4, Chhatra Marg, Mall road, Civil Line, near Viswavidyalaya Metro Station, Delhi. Subject to the satisfaction of the terms and conditions hereinto specified is partially modified to the extent as under.


(Nishceeth Saxena)
Dy. Conservator of Forests
North Forest Division/Tree Officer

To,

M/s Young Builders Pvt. Ltd.
43, Babar Road, Bangali Market,
New Delhi-01.

Term & Condition

1. The Inspecting official of Forest Dept. shall mark the trees before felling/transplant them.
2. Permission to felling/transplant the trees is granted at his own risk and without prejudice to the claim(s) of any other person/s who may be having any right(s) over the land or the trees.
3. Felling/transplant of trees shall be completed within 90 days.
4. Material produced from trees shall not be disposed without permission of the Tree Officer.
5. The compensatory plantations of five times the no of trees permitted for felling/transplant i.e. 780 should be completed by the applicant within 3 months from the date of issue of the order of removal of trees, 50% of the security amount i.e. Rs. 43,68,000/- (Rupees Forty Three Lakh Sixty Eight Thousand only) will be

O/C

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Annexure II

7/11/12

F. No. 8(46)/COT/NFD/08-09/833-36
GOVT. OF NCT OF DELHI
DEPARTMENT OF FOREST AND WILD LIFE
OFFICE OF THE DEPUTY CONSERVATOR OF FOREST
NORTH FOREST DIVISION, KAMLA NEHRU RIDGE,
DELHI-110007, (Ph.:- 011 - 23853561)

dated: 01-10-12

ORDER

Sub: Plantation of saplings at ITO Chungi Part (6) in lieu of removal of 156 no. of trees from Cavelaury Lane Chhatra Marg, Civil Line Delhi-110007 -reg.

With reference to this office order No. F.8(46)/COT/NFD/08-09/200-201, dt.25.05.2011, Rs. 2184000 i.e. 50% of deposited amount was to be utilized for raising and maintenance of 780 tree sapling for five years by Forest Deptt. The fund of Rs. 2184000/- shall be utilized for maintenance of plants at I.T.O Chungi crossing plantation and mandatory 780 saplings would be deemed to have been planted at ITO Chungi crossing at Part (6).

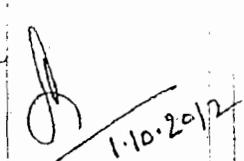


(Nisheeth Saxena)

Dy. Conservator of Forest
North Forest Division/Tree Officer

Copy to:-

1. Sr. A.O. (HQ) GNCT of Delhi.
2. Horticulture Assistant ITO Nursery for information to keep the record of maintenance and this order with reference to maintenance of Part (6).
3. Store Section Incharge DCF (N) Office.
4. Accounts Section.



Dy. Conservator of Forest
North Forest Division/Tree Officer

780 saplings

2564 567

Annexure-VII
715

GOVT. OF NCT OF DELHI
DEPARTMENT OF FOREST AND WILDLIFE
OFFICE OF THE DEPUTY CONSERVATOR OF FOREST
NORTH FOREST DIVISION, KAMLA NEHRU RIDGE,
DELHI - 110007, (PH.:- 011-23853561)

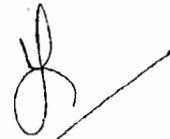
F. No. 8(46)/COT/NFD/08-09/870

Dated: 8-10-12

Sub:- Compensatory Plantation of 780 trees saplings in lieu of removal of 156 trees-reg.

Ref:-1 .Permission letter No. 8(46)/COT/NFD/08-09/200-201, Dt. 25.05.2011
2. Your letter no. Nil, Dt. 24.05.2011 received from Young Builders Pvt. Ltd.

Attention is invited to this office No. 8(46)/COT/NFD/08-09/200-201, Dt. 25.05.2011 where in it was pointed out that 780 nos. saplings of indigenous species were to be planted, however compliance report in this regard not received as yet. therefore it has been decided to inspect the planted saplings on 17th Oct. 12. If the plantation done is not found in accordance with the term & condition specified in original permission a recovery @ Rs. 650/- plant saplings not planted/in adequately maintained plant not as per specifications prescribed, shall be effected from the Young Builders Pvt. Ltd. in charge who affirmed on affidavit in accordance with the provision of Delhi Preservation of Tree Act 1994.



(Nisheeth Saxena)

Dy. Conservator of Forest
North Forest Division/Tree Officer

to

M/s Young Builders Pvt. Ltd.
43, Babar Road, Begali Market
New Delhi-01.

Copy to:-

1. Sh. Vijay Kumar I.O, (Mob.-9211933102) to carry out mandatory inspection in consultation with Young Builders Pvt. Ltd..

o/c

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Reminder

GOVT. OF NCT OF DELHI
DEPARTMENT OF FOREST AND WILDLIFE
OFFICE OF THE DEPUTY CONSERVATOR OF FOREST
NORTH FOREST DIVISION, KAMLA NEHRU RIDGE,
DELHI - 110007, (PH.:- 011-23853561)

F. No. 8(46)/COT/NFD/08-09/1615-16

Dated: 04-3-13

Sub:- Compensatory Plantation of 780 trees saplings in lieu of removal of 156 trees-reg.

- Ref:-1 .Permission letter No. 8(46)/COT/NFD/08-09/200-201, Dt. 25.05.2011
2. Your letter no. Nil, Dt. 24.05.2011 received from Young Builders Pvt. Ltd.
3. This office letter No. (46)/COT/NFD/08-09/870, Dt. 08.10.2012

Attention is invited to this office No. 8(46)/COT/NFD/08-09/200-201, Dt. 25.05.2011 where in it was pointed out that 780 nos. saplings of indigenous species were to be planted, however compliance report in this regard not received as yet. therefore it has been decided to inspect the planted saplings on urgent. If the plantation done is not found in accordance with the term & condition specified in original permission action shall be initiated in accordance with the provision of Delhi Preservation of Tree Act 1994.

(Gopinath R)

Dy. Conservator of Forest
North Forest Division/Tree Officer

Sh. Satish Bansal, Director,
Young Builders Pvt. Ltd.
1/10 Shanti Niketan,
New Delhi-21.

Copy to:-

1. Conservator of forest GNCTD, for information and necessary action.
2. Sh. Vijay Kumar I.O,(Mob.-9211933102) to carry out mandatory inspection in consultation with Director concerned.

o/c

2566

569

15/10/15

F. No. 8(46)/COT/NFD/2008-09/1202-04
GOVT. OF NCT OF DELHI
DEPARTMENT OF FOREST AND WILD LIFE
OFFICE OF THE DEPUTY CONSERVATOR OF FOREST
NORTH FOREST DIVISION, KAMLA NEHRY RIDGE,
DELHI-110007(PH.:23853561)

Date: 15/10/2015

To

M/s Young Builders Pvt. Ltd.
43, Babar Road, Bangali Market,
New Delhi-01.

Sub: Compensatory Plantation of 1560 trees saplings in lieu of 156 trees permitted to be felled/transplanted-reg.

Attention is invited to this office letter F. No. 8(46)/COT/NFD/2008-09/1155-57, dt. 17.12.2012 whereby permission to fell/transplant 156 trees was given under the Delhi Preservation of Trees Act, (DPTA), 1994 on the condition expressly contained therein that 780 trees shall be planted as compensatory plantation in lieu of the trees permitted to be felled/transplanted within a period of nine months from the said date. Since, the period of nine months expired on 17.09.2013, but compliance has yet not been reported from your end, therefore, you are hereby required to report within 15 days of the receipt of this letter the status of the compensatory plantation done with current photographs as a proof thereof failing which action for imposing penalty and forfeiture of the refundable Security Deposit shall be initiated as per the provisions contained in the Act ibid.


(INDHU VIJAYAN N.)
Deputy Conservator of Forest
North Forest Division

Copy to:-

1. The APCCF, A-Block, 2nd Floor, Vikas Bhawan, ITO, New Delhi for kind information.
2. The CF, A-Block, 2nd Floor, Vikas Bhawan, ITO, New Delhi for kind information.
3. Tree Cell, KNR for information.

2567

Annexure-VII

5-10
YOUNG BUILDERS (P) LTD.

43, Babar Road, Bengali Market, New Delhi - 110 001
Ph. : 91 11 4235 5235 Fax : 91 11 4235 5250

718

February 15, 2012

To

The Deputy Conservator of Forest / Tree Officer
Department of Forest and Wild Life,
North Forest Division
Kamla Nehru Ridge
Delhi - 110 007

Kind Attention: Mr. Nisheeth Saxena

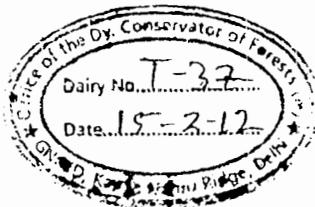
Sir,

Your Ref.: No. F. 8(46)/COT/NFD/08-09/200-201

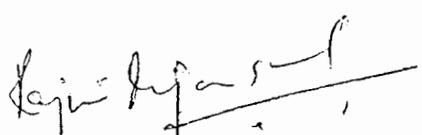
This is with reference to your captioned permission dated 25.05.2011 and our letter dated 11.01.2012 whereby we had requested you to grant us the extension of 12 months period for planting the required no. of sapling from the date of sanction of building plans. The time limit for planting the sapling is expiring on 25.02.2012.

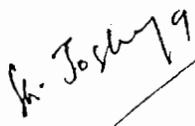
We again request you to kindly grant us the extension of 12 months period for planting the required no. of sapling from the date of sanction of building plans and convey your decision to us at the earliest.

Thanking you,



Yours truly,
For Young Builders Pvt Ltd


Rajiv Ranjan Sharma
Assistant Vice-President - Project & commercial


H. Joshi


16/2

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571

YOUNG BUILDERS (P) LTD.

43, Babar Road, Bengali Market, New Delhi 110 001
Ph. : +91 11 4235 5235, Fax : +91 11 4235 5250

Ref. : YBPL/SJ/2012-13/199

October 15, 2012

The Dy. Conservator of Forest / Tree Officer
Department of Forest and Wild Life,
North Forest Division
Kamla Nehru Ridge
Delhi - 110 007

Ref. : F. No. 8(46)/COT/NFD/08-09/870 dt. 08/10/2012

Dear Sir,

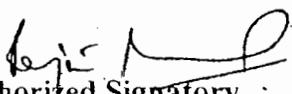
With reference to above, your kind attention is invited to our letters dated 11th January, 2012 & 15th February, 2012 (copy enclosed), submitted to your office on even dates, whereby it was requested to grant an extension of 12 months for planting the required number of saplings from the date of sanction of building plans, since building plans are not yet sanctioned.

We hereby further submit that the building plans of the project are still not sanctioned by Municipal Corporation of Delhi and without approvals no development on site can take place. We assure you that we wish to comply with your requirements but unable to do so in view of non grant of sanctions and will comply with all the requirements as per your direction, after the plans are approved.

In view of above, we hereby again request you to kindly grant us the extension of 12 months period for planting the required number of saplings from the date of sanction of building plans. You are hereby also requested to kindly issue necessary instructions to your I.O. accordingly.

Thanking you,

Yours truly,
For Young Builders Pvt. Ltd.


Authorized Signatory

Encl : a/a

CC: Sh. Vijay Kumar I.O.

2569

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720

YOUNG BUILDERS (P) LTD.

43, Babar Road, Bengali Market, New Delhi 110 001
Ph. : +91 11 4235 5235, Fax : +91 11 4235 5250

Ref.: YBPL/SJ/2012-13/200

December 4, 2012

The Dy. Conservator of Forest / Tree Officer
Department of Forest and Wild Life,
North Forest Division
Kamla Nehru Ridge
Delhi - 110 007

Ref. : F. No. 8(46)/COT/NFD/08-09/870 dt. 08/10/2012

Sub.: Grant of extension for planting trees

Dear Sir,

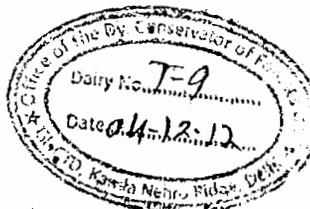
With reference to above, your kind attention is invited to our letters dated 11th January, 2012, 15th February, 2012 and 15th October '12 (copy enclosed), submitted to your office, whereby it was requested to grant an extension of 12 months for planting the required number of saplings from the date of sanction of building plans, since the submitted building plans are not yet sanctioned by Municipal Corporation of Delhi (MCD).

In view of above, we hereby again request you to kindly grant us the extension of 12 months period for planting the required number of saplings from the date of sanction of building plans.

Thanking you,

Yours truly,
For Young Builders Pvt. Ltd.

Authorized Signatory



Encl : a/a

Tree cell
Pl. put up
in relevant
file.
d
4-12-12

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721 43

YOUNG BUILDERS (P) LTD.

43, Babar Road, Bengali Market, New Delhi 110 001
Ph. : +91 11 4235 5235, Fax : +91 11 4235 5250

Tree Cell
Punjab
19/87

Ref.: YBPL/SJ/2012-13/216

August 19, 2013

The Dy. Conservator of Forest / Tree Officer
Department of Forest and Wild Life,
North Forest Division
Kamla Nehru Ridge
Delhi - 110 007

Ref. : F. No. 8(46)/COT/NFD/08-09/870 dt. 08/10/2012

Sub.: Grant of extension for planting trees

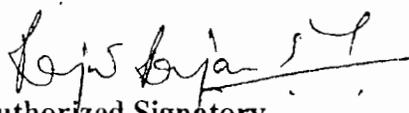
Dear Sir,

With reference to above, your kind attention is invited to our letters dated 25th March, 2013, 11th January, 2012, 15th February, 2012, 15th October'12 and 04th December 2012 (copy enclosed), submitted to your office, whereby it was requested to grant an extension of 12 months for planting the required number of saplings from the date of sanction of building plans, since the submitted building plans are not yet sanctioned by Municipal Corporation of Delhi (MCD).

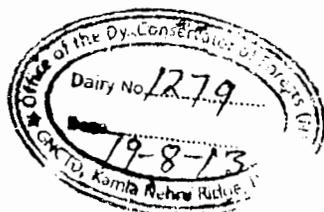
In view of above, we hereby again request you to kindly grant us the extension of 12 months period for planting the required number of saplings from the date of sanction of building plans.

Thanking you,

Yours truly,
For Young Builders Pvt. Ltd.


Authorized Signatory

Encl : a/a



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YOUNG BUILDERS (P) LTD.

43, Babar Road, Bengali Market, New Delhi 110 001
Ph. : +91 11 4235 5235, Fax : +91 11 4235 5250

Ref.: YBPL/SJ/2012-13/217

November 22, 2013

The Dy. Conservator of Forest / Tree Officer
Department of Forest and Wild Life,
North Forest Division
Kamla Nehru Ridge
Delhi - 110 007

Ref. : F. No. 8(46)/COT/NFD/08-09/870 dt. 08/10/2012

Sub.: Grant of extension for planting trees

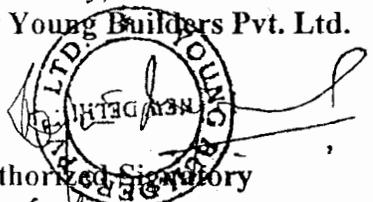
Dear Sir,

With reference to above, your kind attention is invited to our letters dated 19th August '13, 25th March, 2013, 11th January, 2012, 15th February, 2012, 15th October '12 and 04th December 2012 (copy enclosed), submitted to your office, whereby it was requested to grant an extension of 12 months for planting the required number of saplings from the date of sanction of building plans, since the submitted building plans are not yet sanctioned by Municipal Corporation of Delhi (MCD).

In view of above, we hereby again request you to kindly grant us the extension of 12 months period for planting the required number of saplings from the date of sanction of building plans.

Thanking you,

Yours truly,
For Young Builders Pvt. Ltd.

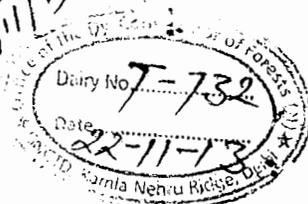


Authorized Signatory

(KAVIN KANDAN SHARMA)
AVP - projects

Encl : a/a

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MADH.
AC
22/11/13



Tree 1cc1
Fee m/c
26/17

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7/25/13

YOUNG BUILDERS (P) LTD.

43, Babar Road, Bengali Market, New Delhi 110 001
Ph. : +91 11 4235 5235, Fax : +91 11 4235 5250

Ref.: YBPL/SJ/2012-13/215

March 25, 2013

The Dy. Conservator of Forest / Tree Officer
Department of Forest and Wild Life,
North Forest Division
Kamla Nehru Ridge
Delhi - 110 007

Ref. : F. No. 8(46)/COT/NFD/08-09/1615-16 dt. 04.03.2013

Sub.: **Compensatory Plantation of 780 trees saplings in lieu of removal of 156 trees**

Dear Sir,

We acknowledge the receipt of your captioned letter and wish to submit that we had complied with all the terms and conditions of your sanction except condition no. 1, for which we have sent 3 communications requesting you for extension of time. We are enclosing herewith copy of our letters dated 11.01.2012, 15.02.2012, 15.10.12 and 04.12.2012, which are self explanatory.

We submit that the building plans of the Project are yet to be sanctioned by Municipal Corporation of Delhi (MCD) and without their approval no development on the site can take place. We assure that we will comply with the condition once the necessary sanction for building plans are received by us from MCD.

In view of above, we hereby once again request you to kindly grant us the extension of 12 months period for planting the required number of saplings from the date of sanction of building plans. We shall be obliged if you please issue necessary instructions to I.O.

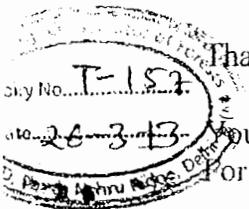
Thanking you,

Yours truly,

For **Young Builders Pvt. Ltd.**

Authorized Signatory

Encl : a/a



Amit

Mo (70)

26/3/13

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ANNEXURE - R 8

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No. F. 8(46)/COT/NFD/08-09/1728
GOVT. OF NCT OF DELHI
DEPARTMENT OF FOREST AND WILD LIFE
OFFICE OF THE DEPUTY CONSERVATOR OF FOREST
NORTH FOREST DIVISION, KAMLA NEHRU RIDGE,
DELHI-110007, (Ph.:- 011 - 23853561)

Dated:

06-01-2014

To,
The Assistant Vice-President
Project & Commercial
Young Builders (P) Ltd.
43, Babar Road, Bangali Market,
New Delhi-01.

Sub: Extension for planting of trees-regarding.

- Ref: 1. Your application No. YBPL/SJ/2012-13/217 dated 22/10/2013 received on 22/11/2013.
2. This office permission order No. F. 8(46)/COT/NFD/2008-09/1155-57, dt. 17/12/12.

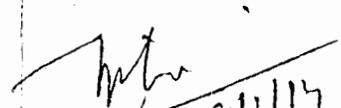
In continuation of this office permission order no. F. 8(46)/COT/NFD/2008-09/200-201 dt. 25/05/11 and F. No. 8(46)/COT/NFD/2008-09/1155-57 dt. 17/12/12 the period for completing compensatory plantation of trees is hereby extended for 01 year w.e.f. issue of this office letter.


(T. Johri)

Dy. Conservator of Forests
North Forest Division/Tree Officer

Copy to:-

1. Sh. Balbir Singh, DRO for information.


Dy. Conservator of Forests
North Forest Division/Tree Officer

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BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH AT NEW DELHI

CASE NO. 112 of 2018

IN THE MATTER OF:
..... University of Delhi

Versus

..... MOEF

PROOF OF SERVICE

| | |
|------------------|---------------------------|
| APPLICANT | Anurag Prasad 10/10/18 |
| RESPONDENT NO.1 | for DDA |
| RESPONDENT NO.2 | for DDA |
| RESPONDENT NO.3 | for DDA |
| RESPONDENT NO.4 | |
| RESPONDENT NO.5 | for DDA |
| RESPONDENT NO.6 | |
| RESPONDENT NO.7 | |
| RESPONDENT NO.8 | |
| RESPONDENT NO.9 | for DMRC |
| RESPONDENT NO.10 | |

759 2575

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Annexure-40

FORM-I

w.r.t.

AMENDMENT IN EC OF GROUP HOUSING COMPLEX

At

1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil
Lines (Adjoining Vishwa Vidyalaya Metro
Station), Delhi

For

M/s. Young Builders (P) Ltd.

Schedule: 8 (a)



Prepared By

GRASS ROOTS RESEARCH & CREATION INDIA (P) LTD.

(Accredited by QCI / NABET: Approved by MoEFCC, GoI, An ISO 9001:2008 Certified
Co.)

F-374-375, Sector-63, Noida, U.P.

Ph.: 0120- 4044630, Telefax: 0120- 2406519

Email: eia@grc-india.com, grc.enviro@gmail.com

Website: <http://www.grc-india.com>

GRC INDIA TRAINING & ANALYTICAL LABORATORY

(Accredited by NABL & Recognized by MoEFCC, GoI)

A unit of GRC India

February 2018



TRUE COPY
ASSOCIATE

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Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi

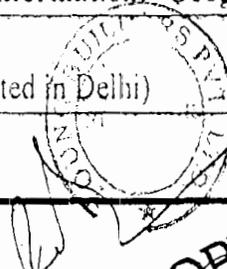
FORM I

FORM- I

(I) Basic Information

| S. No. | Item | Details |
|--------|---|---|
| 1. | Name of the project/s | Amendment in EC of Group Housing Complex |
| 2. | S. No. in the schedule | 8 (a) Building and Construction |
| 3. | Proposed capacity/area/length/tonnage to be handled/command area/lease area/number of wells to be drilled | Plot Area = 20,000m ² Built Up Area (EC Accorded) = 70,265.95m ² Built Up Area (EC Accorded+ Amended Area) = 1,17,733.81m ² |
| 4. | New/Expansion/Modernization | Amendment in Environment Clearance |
| 5. | Existing Capacity/Area etc. | Built Up Area 70,265.95m ² as per EC letter no DPCC/SEAC/50/SEIAA/1/2012 dated 13 th August, 2012. Construction not started at site. |
| 6. | Category of Project i.e. 'A' or 'B' | Category B |
| 7. | Does it attract the general condition? If yes, please specify. | No |
| 8. | Does it attract the specific condition? If yes, please specify. | No |
| 9. | Location Plot/Survey/Khasra No. Village Tehsil District State | 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines, NA North Delhi North Delhi Delhi |
| 10. | Nearest railway station/airport along with distance in kms. | Nearest Railway Station: The nearest railway station is Old Delhi Railway Station at a distance of 4.0 km in SSE. Nearest Airport: The nearest airport is Indira Gandhi International Airport, approx. at a distance of 19.0 km in SW direction. (Source of information:- Google Image) |
| 11. | Nearest Town, city, District Headquarters along with distance in | North Delhi (Project located in Delhi) |

M/s. Young Builders (P) Ltd.



TRUE COPY
DATE

580

Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi

FORM I

| | | |
|-----|---|--|
| | kms. | |
| 12. | Village Panchayats, Zilla Parishad, Municipal Corporation, Local body (complete postal addresses with telephone nos. to be given) | MCD North Zone Delhi |
| 13. | Name of applicant | M/s Young Builders (P) Ltd. |
| 14. | Registered Address | 10A, Scindia House, Connaught Circus, New Delhi-110001 |
| 15. | Address for correspondence : Name Designation (Owner/Partner/CEO) Address Pin Code Telephone No. E-mail | Mr. Rajiv Ranjan Sharma Vice President 43, Babar Road, Bengali Market, New Delhi 110001 Email: rajivranjan@youngbuilders.in Mobile:+91-9711733602 |
| 16. | Details of Alternative Sites examined, if any. Location of these sites should be shown on a toposheet. | Details for the alternative sites are not required as the land purchased by Delhi Metro Rail Corporation Limited for Group Housing Complex. |
| 17. | Interlinked Projects | No |
| 18. | Whether separate application of interlinked project has been submitted? | Not Applicable |
| 19. | If yes, date of submission | Not Applicable |
| 20. | If no, reason | Not Applicable |
| 21. | Whether the proposal involves approval/ clearance under: if yes, details of the same and their status to be given. (a) The forest (Conservation) act, 1980? (b) The wildlife (Protection) act, 1972? (C) The C.R.Z Notification, 1991? | No |
| 22. | Whether there is any Government Order/Policy relevant/relating to the site? | None |

M/s. Young Builders (P) Ltd.

2

TRUE COPY

Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi

FORM I

| | | | |
|------|---|-----|--|
| 1.6 | Demolition works? | No | Project site is vacant land. Demolition is not required. |
| 1.7 | Temporary sites used for construction works or housing of construction workers? | Yes | All the construction activity including stocking of raw materials will be confined within the project site only. Temporary labour hutments are proposed. Local labours from nearby area will be hired. Sanitation facilities will be developed at site. |
| 1.8 | Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations | Yes | Excavation will be carried out for foundation of buildings and basements. The excavated soil will be used in backfilling and other area development activities |
| 1.9 | Underground works including mining or tunnelling? | No | No underground works including mining tunneling is required except excavation of earth. |
| 1.10 | Reclamation works? | No | No reclamation work required. |
| 1.11 | Dredging? | No | No dredging required. |
| 1.12 | Offshore structures? | No | No offshore structures required. |
| 1.13 | Production and manufacturing processes? | No | No production/manufacturing process is involved as the project is a residential complex. |
| 1.14 | Facilities for storage of goods or materials? | Yes | Raw material will be stored at site in a covered area. Cement will be separately stored under cover in bales. Sand will be stacked neatly under tarpaulin cover. Bricks and steel will be laid in open. |
| 1.15 | Facilities for treatment or disposal of solid waste or liquid effluents? | Yes | <u>Solid Waste:</u> The solid waste generated from the project will be in the form of: <u>Construction Waste:</u> Left over cement and mortars, cement concrete blocks, aggregate, sand and other inorganic material will be recycled and reused as granular subbase (GSB |

M/s. Young Builders (P) Ltd.

TRUE COPY

Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi

FORM 1

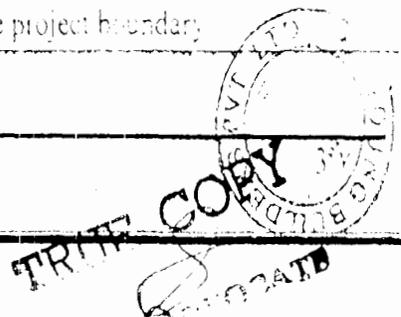
| | | |
|-----|---|----|
| 23. | Forest land involved (hectares) | No |
| 24. | Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No.. (c) Orders/directions of the Court, if any and its relevance with the project. | No |

(II) Activity

1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

| S. No. | Information/Checklist confirmation | Yes/No | Details thereof (with approximate quantities /rates, wherever possible) with source of information data |
|--------|---|--------|---|
| 1.1 | Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan) | No | Land has been allotted for residential purposes under Master Development Plan of New Delhi 2021. The development of the project will be in accordance with development plan of the city and there is no change in land use. |
| 1.2 | Clearance of existing land, vegetation and buildings? | No | The construction of project does not require any clearance of existing Land, Vegetation & Building. |
| 1.3 | Creation of new land uses? | No | Land has been earmarked for development of residential facilities as per Master Plan of Delhi 2021, so there will be no creation of new land use. |
| 1.4 | Pre-construction investigations e.g. bore houses, soil testing? | Yes | Geotechnical study for soil has been done for the project. |
| 1.5 | Construction works? | Yes | All construction activities will be confined within the project premises; there will be no physical changes outside the project boundary. |

M/s. Young Builders (P) Ltd.

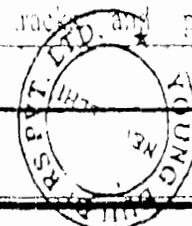


Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi

FORM I

| | | | |
|------|---|----|--|
| | | | <p>layer of pavement.</p> <p>Operational Phase: Total solid wastes generated including landscape wastes will be 840 kg/day. Solid wastes generated will be segregated into biodegradable (waste vegetables and foods etc.) and non-biodegradable (papers, cartons, thermocol, plastics, glass etc.) components and collected in separate bins. The biodegradable organic wastes will be treated inside the premises by organic waste converter. Recyclable and non-recyclable wastes will be disposed through Govt. approved agency.</p> <p>Liquid effluents: During construction phase, sewage will be treated and disposed through septic tanks with soak pits. The waste water in operation phase will be treated up to tertiary level in a STP of 200 KLD capacity and the treated sewage will be reused for toilet flushing and horticulture. The surplus treated water (77 KLD during dry season and 87 KLD during monsoon season) will be discharged to the Sewer. Dewatered dried sludge generated from the STP plant will be used as manure for green belt development.</p> |
| 1.16 | Facilities for long term housing of operational workers? | No | Local labourers will be hired from nearby areas during construction phase. So, there will be no need to create permanent facilities for long-term housing of operational workers. |
| 1.17 | New road, rail or sea traffic during construction or operation? | No | The project site is located to the NH. Only internal roads, paths will be developed for vehicular movements & transportation of construction material during construction phase whereas internal tracks and paths will be |

M/s. Young Builders (P) Ltd.



TRUE COPY
ADVOCATE

*Amendment in EC of Group Housing Complex
at 1 & 3 Cavalry Lane & 4, Chhatra Marg at Civil Lines
(Adjoining Vishwa Vidyalaya Metro Station), Delhi*

FORM I

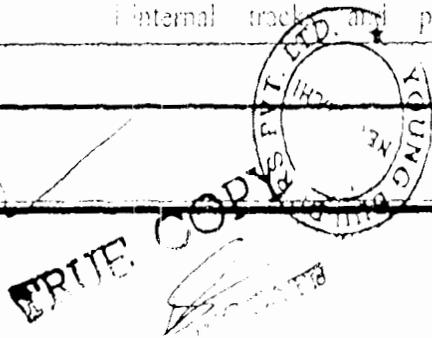
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| | | | developed for traffic circulation (to avoid any congestion) during operational phase. |
| 1.18 | New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc? | No | The project site is in close proximity to the NH-1. The nearest railway station is Old Delhi Railway Station at a distance of 4.0 km in SE. The nearest airport is IGI, approximately at a distance of 19.0 km in SSE direction. |
| 1.19 | Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements? | No | Since the site is adjacent to Sector Road which has low traffic density, there will be no need for diversion or closure of existing traffic routes. |
| 1.20 | New or diverted transmission lines or pipelines? | No | There will not be any new-diverted transmission lines or pipelines around the project. |
| 1.21 | Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers? | No | No impoundment, damming, culverting, realignment or other changes to the hydrology of surface watercourses is proposed. |
| 1.22 | Stream crossings? | No | There are no streams running across the site. |
| 1.23 | Abstraction or transfers of water from ground or surface waters? | Yes | During construction phase, 589 ML of water will be required which will be met supplied through private water tankers. During operation phase, water will be provided by Delhi Jal Board. About 224 KLD of fresh water will be required during operation phase of the project. |
| 1.24 | Changes in water bodies or the land surface affecting drainage or run-off? | No | Runoff will increase due to increased paved surface. However, increased runoff will be managed by well-designed rainwater harvesting system and storm water management plan. |
| 1.25 | Transport of personnel or materials for construction, operation or decommissioning? | Yes | During the construction phase, about 15-20 trucks are estimated per week. Adequate parking space within the project site for loading and unloading of materials will be provided. Adequate parking space (854 ECS) will |

Amendment in EC of Group Housing Complex
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| | | | <p>layer of pavement.</p> <p>Operational Phase:</p> <p>Total solid wastes generated including landscape wastes will be 840 kg/day. Solid wastes generated will be segregated into biodegradable (waste vegetables and foods etc.) and non-biodegradable (papers, cartons, thermocol, plastics, glass etc.) components and collected in separate bins. The biodegradable organic wastes will be treated inside the premises by organic waste converter. Recyclable and non-recyclable wastes will be disposed through Govt. approved agency.</p> <p>Liquid effluents:</p> <p>During construction phase, sewage will be treated and disposed through septic tanks with soak pits. The waste water in operation phase will be treated up to tertiary level in a STP of 200 KLD capacity and the treated sewage will be reused for toilet flushing and horticulture. The surplus treated water (77 KLD during dry season and 87 KLD during monsoon season) will be discharged to the sewer. Dewatered/dried sludge generated from the STP plant will be used as manure for green belt development.</p> |
| 1.16 | Facilities for long term housing of operational workers? | No | Local labourers will be hired from nearby areas during construction phase. So, there will be no need to create permanent facilities for long-term housing of operational workers. |
| 1.17 | New road, rail or sea traffic during construction or operation? | No | The project site is located to the NH 1. Only internal roads, paths will be developed for vehicular movements & transportation of construction material during construction phase. Whereas internal track and paths will be |

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| | | | be provided for operational phase to the residents and commercial occupants of the premises |
| 1.26 | Long-term dismantling or decommissioning or restoration works? | No | No Long term dismantling or decommissioning or restoration works will be involved. |
| 1.27 | Ongoing activity during decommissioning which could have an impact on the environment? | No | None |
| 1.28 | Influx of people to an area in either temporarily or permanently? | No | Local laborers from nearby area will be employed during the construction phase. In the operation phase, most of the expected occupants will be from the surrounding areas. Hence, the project will lead to a redistribution of occupants within the city. Thus, no significant influx of people is envisaged. |
| 1.29 | Introduction of alien species? | No | The landscaping will be carried out with mainly local species of flora that are well suited to the local conditions. |
| 1.30 | Loss of native species or genetic diversity? | No | There will be no significant impact on the native species or genetic diversity. |
| 1.31 | Any other actions? | No | Not Applicable. |

2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

| S. No. | Information/checklist confirmation | Yes/No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data |
|--------|---|--------|---|
| 2.1 | Land especially undeveloped or agricultural land (ha) | No | The residential project is as per the designated landuse under Master Development Plan of Delhi, 2021. |
| 2.2 | Water (expected source & competing users) unit: KLD | Yes | During construction phase, 589 M ³ of water will be required which will be supplied through private water tankers. During operation phase, water will be provided by Delhi Jal Board. About 224 KLD of fresh water will be required during operation phase of the project. |

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| 2.3 | Minerals (MT) | Yes | Minerals such as sand and aggregates will be required during the construction phase. |
| 2.4 | Construction material – stone, aggregates and soil (expected source – MT) | Yes | All materials for construction will be arranged through select suppliers. |
| 2.5 | Forests and timber (source – MT) | Yes | All material forests and timber will be provided by selected suppliers. However steel frames etc shall be used to minimize the use of timber. |
| 2.6 | Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW) | Yes | The total demand load is estimated at 2808 KW. Power will be supplied by North Delhi Power Limited (NDPL). Power backup for the Group Housing Complex will be through 3 number of DG sets of total capacity of 4500 kVA (i.e. 3x1500 kVA each). Out of 3 DG Sets 1 will remain on standby mode. |
| 2.7 | Any other natural resources (use appropriate standard units) | No | Not Applicable |

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

| S. No. | Information/Checklist confirmation | Yes/No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data |
|--------|---|--------|--|
| 3.1 | Use of substances or materials, which are hazardous (as per MSHC rules) to human health or the environment (flora, fauna, and water supplies) | Yes | Diesel for DG sets will be stored in drums in earmarked locations. It shall also be handled as per The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 and Material Safety Data Sheet. Used oil of DG sets will be given to authorized dealers approved by CPCB/MoEF for Hazardous Waste Handling. |
| 3.2 | Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases) | No | Suitable drainage and waste management measures (with frequent spray of insecticides etc.) will be adopted in both the construction and operational phase such that there will be no stagnation of water or accumulation of waste. This will |

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| | | | effectively restrict the reproduction and growth of disease vectors. |
| 3.3 | Affect the welfare of people e.g. by changing living conditions? | Yes | Socio-economic standard of people will improve due to increased employment opportunities provided by this project. This will lead to better quality of life and will also set a standard for future developments in the area. |
| 3.4 | Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc. | No | Impacts of this type are not expected. |
| 3.5 | Any other causes | No | Not Applicable |

4. Production of solid wastes during construction or operation or decommissioning (MT/month)

| S. No. | Information/Checklist confirmation | Yes/No | Details thereof (with approximate quantities/rates, wherever possible, with source of information data) | | | | | | | | |
|--|--|--------|---|--|------------|--|------------|-------------|-----------|--------------|-------------------|
| 4.1 | Spoil, overburden or mine wastes | No | No such spoil, overburden or mine wastes will be generated. | | | | | | | | |
| 4.2 | Municipal waste (domestic and or commercial wastes) | Yes | The total municipal (domestic) solid waste to be generated is approx. 840 kg/day. <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Biodegradable waste (vegetables and fruits etc.)</td> <td>504 kg/day</td> </tr> <tr> <td>Non-biodegradable waste (Papers, cartons, thermocol, plastics, glass etc.)</td> <td>252 kg/day</td> </tr> <tr> <td>Inert waste</td> <td>84 kg/day</td> </tr> <tr> <td>Total</td> <td>840 kg/day</td> </tr> </table> | Biodegradable waste (vegetables and fruits etc.) | 504 kg/day | Non-biodegradable waste (Papers, cartons, thermocol, plastics, glass etc.) | 252 kg/day | Inert waste | 84 kg/day | Total | 840 kg/day |
| Biodegradable waste (vegetables and fruits etc.) | 504 kg/day | | | | | | | | | | |
| Non-biodegradable waste (Papers, cartons, thermocol, plastics, glass etc.) | 252 kg/day | | | | | | | | | | |
| Inert waste | 84 kg/day | | | | | | | | | | |
| Total | 840 kg/day | | | | | | | | | | |
| 4.3 | Hazardous wastes (as per Hazardous Waste Management Rules) | Yes | The hazardous wastes along with other wastes in the project, will be used on from DG sets, which is classified as per The Hazardous Waste Category S as per The Hazardous Wastes Management & Handling) Rules, 1989. | | | | | | | | |

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| | | | Used oil from DG sets will be stored in HDPE drums in isolated covered facility. This used oil will be sold to authorized recyclers. Suitable care will be taken so that spills/leaks of used oil from storage is avoided. |
| 4.4 | Other industrial process wastes | No | Not applicable |
| 4.5 | Surplus product | No | Not applicable |
| 4.6 | Sewage sludge or other sludge from effluent treatment | Yes | 20 kg/day of Sludge generated from the STP plant will be dried and later will be used as manure for green belt development. |
| 4.7 | Construction or demolition wastes | Yes | The construction waste will consist of excess earth and construction debris along with cement bags, steel in bits and pieces, insulating and packaging materials etc. Recyclable waste construction materials will be sold to recyclers. Unusable and excess construction debris will be disposed at designated places in tune with the local norms. |
| 4.8 | Redundant machinery or equipment | No | Redundant machinery will not be generated. |
| 4.9 | Contaminated soils or other materials | No | Contaminated soils or other materials will not be generated. |
| 4.10 | Agricultural wastes | Yes | Landscape wastes of 0.17 kg/day will be generated. |
| 4.11 | Other solid wastes | No | Not Applicable |

5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr).

| S. No. | Information/Checklist confirmation | Yes/No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data |
|--------|---|--------|---|
| 5.1 | Emissions from combustion of fossil fuels from stationary or mobile sources | Yes | The project does not envisage any major air pollution sources except operation of DG sets during power failure and vehicular traffic. |
| 5.2 | Emissions from production processes | No | No production processes involved. Hence, there will be no such emissions. |
| 5.3 | Emissions from materials handling including storage or transport | Yes | Small quantities of fugitive emissions are envisaged during transport and handling. |

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| | | | of construction materials. Such emissions will be temporary and controlled by the use of sprinkling and other viable techniques like covering of loose material. |
| 5.4 | Emissions from construction activities including plant and equipment | Yes | This will be restricted to the construction phase and the construction site only. |
| 5.5 | Dust or odours from handling of materials including construction materials, sewage and waste | Yes | Dust is anticipated during rading and unloading of construction material and excavation of upper earth surface. These will however be temporary in nature, which will be controlled by providing water sprinklers. Tarpaulin cover will be provided on stored loose materials to reduce the dust emission. There is no source of odors in the proposed project. |
| 5.6 | Emissions from incineration of waste | No | No incineration of wastes is proposed. |
| 5.7 | Emissions from burning of waste in open air (e.g. slash materials, construction debris) | No | Open burning of biomass/other material will be prohibited on site. |
| 5.8 | Emissions from any other sources | No | Not Applicable |

6. Generation of Noise and Vibration, and Emissions of Light and Heat:

| S. No. | Information/Checklist confirmation | Yes/No | Details thereof (with approximate quantities/ rates, wherever possible) with source of information data |
|--------|---|--------|---|
| 6.1 | From operation of equipment e.g. engines, ventilation plant, crushers | Yes | Noise Source in the operational phase will be from DG sets (which will be in operation only during power failure) and pumps & motors. All the machinery will be of highest standard of reputed make and will comply with standard as the DG set room will be provided with acoustic enclosure to have minimum 25 dB (A) insertion loss or for meeting the ambient noise standard whichever is on higher side as per E (P) Act, GSR 37, (E) and its amendments. Therefore, no significant impact due to operation of machinery is anticipated. |
| 6.2 | From industrial or similar processes | No | No industrial processes will be carried out in the project. |

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| 6.3 | From construction or demolition | Yes | Due to various construction activities, there will be short-term noise impacts in the immediate vicinity of the project site. The construction activities will include the following noise generating activities. <ul style="list-style-type: none"> • Concreting, mixing & operation of DG sets. • Construction plant and heavy vehicle movement. |
| 6.4 | From blasting or piling | No | No blasting or mechanized piling will be done. |
| 6.5 | From construction or operational traffic | Yes | Some noise will be generated from vehicular movement in the construction and operational phase but that will be temporary and mitigated with green belt and PUC vehicle will be only operated. |
| 6.6 | From lighting or cooling systems | No | No significant noise impact will result from lighting or cooling systems. |
| 6.7 | From any other sources | No | Not Applicable |

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

| S. No. | Information/Checklist confirmation | Yes/No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data |
|--------|---|--------|--|
| 7.1 | From handling, storage, use or spillage of hazardous materials | No | The used oil from DG sets will be carefully stored in HDPE drums at isolated storage, and periodically sold to authorized recyclers. All precautions will be taken to avoid spillage from storage as per The Hazardous Wastes (Management & Handling) Rules, 1989. |
| 7.2 | From discharge of sewage or other effluents to water or the land (expected mode and place of Discharge) | No | There will be no discharge of untreated sewage on land or into water bodies. Adequate treatment of sewage will be carried out in a STP of capacity 260 KLD, proposed within the project premises. Treated sewage will be re-used for flushing & landscaping and the surplus treated water (77 KLD during dry season and 87 KLD during monsoon season) will be discharged to the sewer. External facility will be provided. |

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| | | | discharge the excess treated water as per The Water (Prevention and Control of Pollution) Act, 1974. |
| 7.3 | By deposition of pollutants emitted to air into the land or into water | No | The DG Sets will be provided with stacks of adequate height. Hence dispersion will be achieved and avoid deposition of pollutants in significant concentrations at any single location. |
| 7.4 | From any other sources | No | Not Applicable |
| 7.5 | Is there a risk of long term build up of pollutants in the environment from these sources? | No | Not Applicable |

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment

| S. No. | Information/Checklist confirmation | Yes/No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data |
|--------|--|--------|---|
| 8.1 | From explosions, spillages, fires, etc. from storage, handling, use or production of hazardous substances | Yes | To deal with any fire related accident, fire fighting facility of single handed hydrant valve, long hose reel, and portable fire extinguisher shall be provided |
| 8.2 | From any other causes | No | Not Applicable |
| 8.3 | Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc) | No | The project falls under Seismic Active Zone IV indicating high damage risk zone. The buildings will be designed as earthquake resistant and comply with the required IS specifications. |

9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

| S. No. | Information/Checklist confirmation | Yes/No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data |
|--------|---|--------|---|
| 9.1 | Lead to development of supporting, utilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: | Yes | Appropriate infrastructure like roads, power supply, waste management and waste water treatment will be developed within the project site. Development of the area will be as per |

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| | <ul style="list-style-type: none"> Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) Housing development Extractive industries Supply industries Other | <p>Yes</p> <p>No</p> <p>No</p> <p>No</p> | <p>the approved Master Development Plan of Delhi, 2021.</p> <p>Housing development will take place.</p> <p>Not Applicable</p> <p>Not Applicable</p> <p>Not Applicable</p> |
| 9.2 | Lead to after-use of the site, which could have an impact on the environment | No | Not Anticipated |
| 9.3 | Set a precedent for later developments | Yes | The project will provide good infrastructure and better life style and will set an example for later developments in the areas. |
| 9.4 | Have cumulative effects due to proximity to other existing or planned projects with similar effects | No | Not Applicable |

(III) Environmental Sensitivity

| S. No. | Areas | Name/ Identity | Aerial distance (within 15 km) Proposed project location boundary |
|--------|---|---|---|
| 1 | Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value | Parliament House Rashtrapati Bhavan Red Fort India Gate Jama Masjid Supreme Court Safdarjung Tomb Raj Ghat | Approx. 8.5 Km. South Approx. 9.0 Km. SSW Approx. 5.0 Km SE Approx. 9.0 Km SSE Approx. 5.0 Km SSE Approx. 8.5 Km SSE Approx. 11.5 Km South Approx. 7.0 Km SE |
| 2 | Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, | <u>Water Sources</u> Yamuna River | Approx. 1.5 Km East |

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| | biospheres, mountains, forests | Najafgarh Drain Bhalswa Lake <u>Forest</u> Northern Ridge Reserve Forest Central Ridge Reserved Forest | Approx. 0.5 Km West Approx. 6.5 Km NW Approx. 0.5 Km East Approx. 6.0 Km SSW |
| 3 | Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration | Yamuna Biodiversity Park | Approx. 4.0 Km North |
| 4 | Inland, coastal, marine or underground waters | None | -- |
| 5 | State, National boundaries | State Boundary- Uttar Pradesh | Approx. 6.5 Km Nt |
| 6 | Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas | NH-1 Old Delhi Railway Station IGI Airport | Approx. 35m North Approx. 4.0 Km SSE Approx. 19.0 Km SW |
| 7 | Defense installations | Delhi Cantt. | Approx. 12.0 Km SSW |
| 8 | Densely populated or built-up area | Kamla Nagar | Approx. 1.5 Km SSW |
| 9 | Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities) | Sant Parmanad Hospital North DMC Medical College & Hindu Rao Hospital Malaviya Senior Model School Arya Samaj Mandir | Approx. 2.1 Km SE Approx. 2.0 Km South Approx. 2.5 Km WSW Approx. 1.0 Km SE |

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| | | Post Office Delhi University | Approx. 0.5 Km SSE |
| | | Axis Bank | Approx. 1.5 Km East |
| 10 | Areas containing important, high quality or scarce resources. (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals) | <u>Tourism</u> Parliament House Rashtrapati Bhavan Red Fort India Gate Jama Masjid Supreme Court Safdarjung Tomb Raj Ghat <u>Forest</u> Northern Ridge Reserve Forest Central Ridge Reserved Forest | Approx. 3.5 Km. South Approx. 9.0 Km. SSW Approx. 5.0 Km SE Approx. 9.0 Km SSE Approx. 5.0 Km SSE Approx. 3.5 Km SSE Approx. 11.5 Km South Approx. 7.0 Km SE Approx. 0.5 Km East Approx. 6.0 Km SSW |
| 11 | Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded) | None | -- |
| 12 | Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions) | Earthquakes | The site falls under the zone IV as per the Seismic Zone Map of India and is thus prone to high damage risk zone. Adequate measures will be taken during the construction of the project. |

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Group Housing Project
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"I hereby undertaking that the data and information given in the application and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance give, if any to the project will be our risk and cost.

Date: 24.01.2013
Place: New Delhi

Signature of the Applicant
Rajiv Ranjan Sharma
Vice President - Projects
43, Babar Road,
New Delhi - 110 001

(Project Proponent/ Authorized Signatory)

NOTE:

1. The Projects involving clearance under Coastal Regulation Zone Notification, 1991 shall submit with the application a C.R.Z map duly demarcated by one of the authorized agencies, showing the project activities, w.r.t. C.R.Z. and the recommendations of the state Coastal Zone management Authority. Simultaneous action shall also be taken to obtain the requisite clearance under the provisions of the C.R.Z. Notification, 1991 for the activities to be located in the CRZ.
2. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon."
3. All correspondence with the Ministry of Environment & Forests including submission of application for TOR/ Environmental Clearance, subsequent clarifications, as may be required from time to time, participation in the BAC Meeting on behalf of the project proponent shall be made by the authorized signatory only. The authorized signatory should also submit a document in support of his claim of being an authorized signatory for the specific project".

M/s Young Builders (P) Ltd.

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ADVOCATE



ENVIRO LEGAL DEFENCE FIRM <eldflegal@gmail.com>

SERVICE IN DELHI UNIVERSITY APPEAL 112 OF 2018

1 message

ELDF <eldflegal@gmail.com>

Fri, Jan 15, 2021 at 7:57 PM

To: sakshilawyerchamber@gmail.com, kushsharma84@gmail.com, Rao Adn <adnrao@adnrao.com>, pujakalra@gmail.com, PUJA KALRA <pujakalra09@gmail.com>, sanjeev@ralli.in, Ardhendumauli Prasad <mail@ardhendumauli.com>, rohan.talwar@aglaw.in, mahesh@aglaw.in, anirudh.bhatia@aglaw.in
Cc: Saumitra Jaiswal <SAUMITRA@eldfindia.com>, salik shafique <salik@eldfindia.com>, "Cc: Sanjay Upadhyay" <sanjay@eldfindia.com>
Bcc: Admin <admin@eldfindia.com>

Dear Sir/Madam,

Please find the attached copy of the Written Submission/Objections on behalf of the Appellant represented by Adv. Sanjay Upadhyay.

 [2021.01.15 - Written Submission-Objections on b...](#)

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Samitra Jaiswal

Advocate

Enviro Legal Defence Firm

29, Presidential Estate

LGF, Nizamuddin East

New Delhi – 110013

Ph.No. 011-40573181